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The OIL AND GAS JOURNAL

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Rotary Drilling
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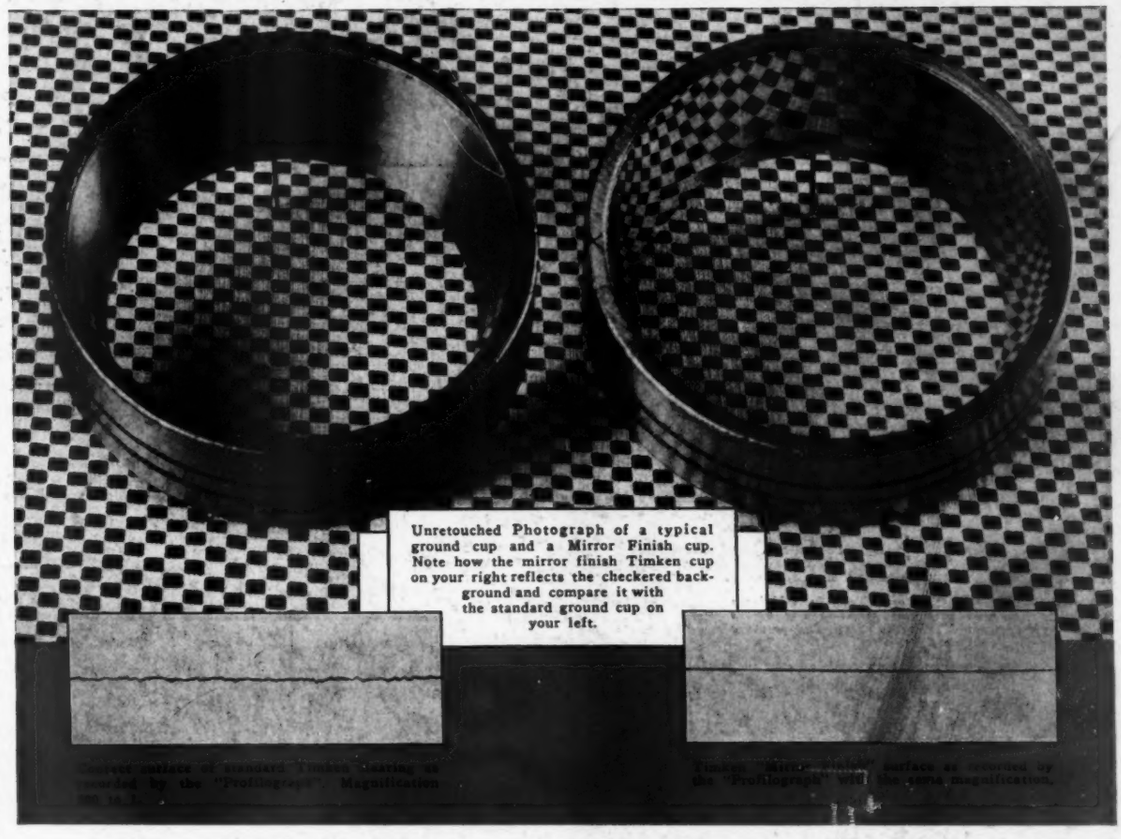

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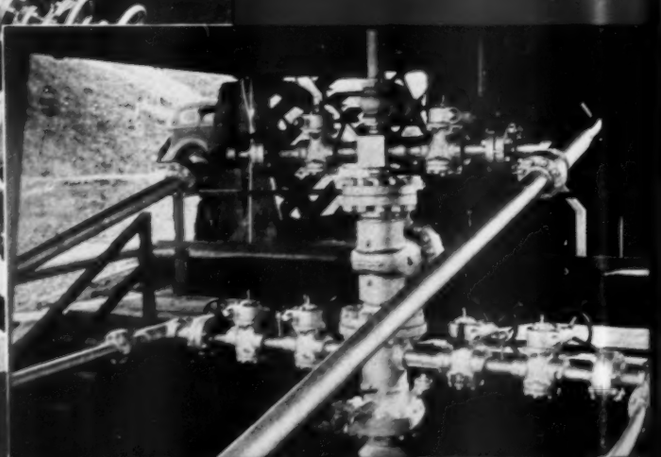

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California Situation Local in Effects

By ANDREW M. ROWLEY

CONVICTION THAT the California situation will continue local in effect and will not directly influence conditions or markets outside the Pacific Coast area is becoming widespread through the industry. Announcement of better prices in California depends on how closely the new figures on allowable production, 590,700 barrels daily, approximates demand for crude oil. Part of the industry in California feels the allowable is too high and that requirements for crude will not reach that figure. That would mean additions to storage if production is maintained at the figure above demand.

Carrying crude oil in above ground storage is a costly proposition and few companies are willing to increase their steel tank holdings. In view of this situation it seems probable, if companies are forced to add to storage, producers would have to bear part of the burden of such action in the form of lower crude oil prices than otherwise would obtain. If the overproduction is not too great it is possible a readjustment of crude oil price schedules in California might be made on a basis of 75 cents per barrel instead of $1.00 per barrel basis which prevailed up to August 29.

The outlook throughout the remainder of the country continues good with operators becoming more optimistic as consumption is being maintained at a high level and evidence is shown of sincere efforts being made to hold output to consumptive demand. The decline in production in the four major producing areas—California, Texas, Oklahoma and Kansas—during the past week is an encouraging sign. There is still quite a discrepancy in opinion as to the possibilities of Rodessa. Many operators, while realizing that pool will produce a lot of crude, do not think it will menace the market and they regard water intrusion as an important factor in a long time picture. The most recent completion, making 225 barrels an hour through a one-half inch choke, without water, is pointed to by those operators who believe the pool will be of large extent and very prolific production as proof of their contention.

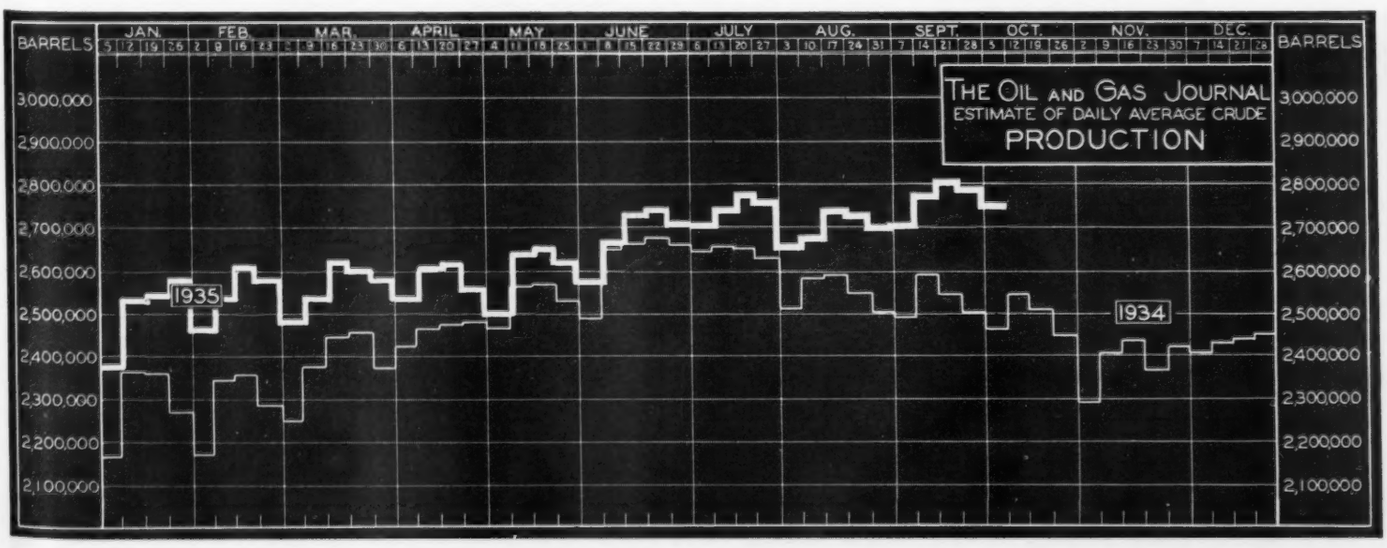
Production 2,760,595
Decrease 35,736

Kansas will enjoy renewed activity with the extension of pipe line facilities to areas which have been without adequate outlets for production heretofore. New productive sections continue to be opened in that state with wells of large output. The well which opened a new pool in Russell County is regarded as a 700-barrel pumper after a test last week. The Amerada and Sunray, in a joint operation, completed another well in the Oxford Pool which was given a potential of 15,609 barrels daily.

In Oklahoma the British American Oil Co. has a 5,000-barrel well 3½ blocks from the state capitol grounds in Oklahoma City. The Marathon Oil Co. completed a well in the Edmond Pool, Oklahoma County, which gauged 863 barrels an hour. In the Gulf Coast attention was centered on a test 1½ miles northeast of production in the Anahuac Pool. It was checking considerably lower than the nearest producer to it.

Estimated Daily Average Production for Week Ending October 5, as Compared With Previous Week and a Year Ago

	Oct. 5	Sept. 28	Oct. 6, 1934
Oklahoma City	131,600	137,350	126,050
Seminole-St. Louis	92,050	96,750	72,025
Remainder of State	251,800	258,050	222,700
Total Oklahoma	475,450	492,150	420,775
East Texas	473,483	481,020	529,697
West Texas	147,658	147,339	147,624
North Central Texas	93,043	92,445	86,023
Texas Panhandle	59,050	55,547	61,795
East Central Texas	43,954	47,245	51,176
Gulf Coast—Texas	190,392	192,065	178,025
Southwest Texas	61,383	60,688	56,227
Total Texas	1,068,963	1,076,349	1,110,567
Kansas	143,450	147,550	120,200
North Louisiana	27,635	27,790	23,755
Gulf Coast—Louisiana	122,197	121,347	78,850
Total Louisiana	149,832	149,137	102,605
Arkansas	30,185	30,265	30,640
Eastern Fields	103,000	103,000	103,500
Michigan	53,035	52,470	31,728
Rocky Mountain area	113,680	111,810	97,890
Santa Fe Springs	54,400	54,350	36,750
Long Beach	75,750	75,900	58,250
Mountain View	36,250	41,550	9,600
Kettleman Hills	92,500	91,800	54,700
Remainder of State	364,100	370,000	290,700
Total California	623,000	633,600	450,000
Total United States	2,760,595	2,796,331	2,467,905



The Bulletin Board

WESTERN KANSAS is expected to show a big increase in field operations as pipe line facilities are being provided in an area where 20 pools are without outlets and drilling has been curtailed due to the inability of operators to transport their production to markets.

TEXAS UTILITY companies have filed suits in the federal courts to prevent Secretary Ickes from advancing public works loans to municipalities for the purpose of establishing municipal plants. The companies claim that their investments would be endangered by this policy.

ALL COASTAL RESERVES may be located within two years if the present rate of exploration on the Gulf is continued. Calculations based on geophysical activities and pace of surveys cover the entire district including Southwest Texas.

BUREAU OF MINES report shows improvement in statistical position of oil industry during August. Gain of 10 per cent in domestic consumption during the greater part of the summer and better export market than was expected helped.

CAPITOL BUILDING in Oklahoma City is being hard pressed by the oil man. A well that extends the field northerly is being completed within three and a half blocks of the State House.

CHIEF EFFECT of Italo-Ethiopian war so far has been the strengthening of the world market because Rumania in supplying Italy has been unable to maintain sales in other countries who have had to purchase elsewhere. European nationalistic policies on establishing home supply of oil also affect the world situation.

UPWARD REVISION of crude prices in California believed possible within 15 days although it may not reach a dollar a barrel unless there is assurance refined prices will move upward in sympathy and be effective. Excessive potentials having been punctured it is not thought California could produce 1,000,000 bbls. daily unrestricted for any length of time.

EAST TEXAS overproduction still estimated around 40,000 bbls. daily. Railroad Commission to hold allowable statewide hearing October 17. Open flow tests conducted by the commission show surprisingly small decline in some wells and slight increase in others. The field has produced 800,000,000 bbls. and has 19,000 wells.

INJUNCTION has been issued by federal court temporarily restraining Texas Railroad Commission from enforcing gas conservation rulings against Portland Gasoline Co. Texas Panhandle Gas Co. and Texhoma Natural Gas Co. also secured ininjunctions and the effect will be slightly more natural gasoline produced in the Panhandle district in consequence.

TOWN-LOT DRILLING problem solved in South Houston, Tex., through co-operation of property owners and city council in a plan by which the city is divided into districts and all owners will share equally in any production developed in their districts.

NATURAL GASOLINE stocks at California plants have been consistently under those maintained a year ago, the margin of difference approximating 500,000 bbls. Production has increased but not in proportion to consumption. New gas producing fields have developed very slowly and a substantial decline is being witnessed in the production from older fields.

Western Kansas Pipe Line Extensions Assure Big Increase in Field Work

Increased pipe line facilities now being provided for western Kansas together with plans under consideration for further extensions of crude oil carriers will result in a large increase in field work in that part of the State. In Russell County alone it is expected double the present number of wells will be drilling as soon as pipe line outlets are available. That will mean 100 wells, a large proportion of them wildcats, which would have been started before this had there been transportation facilities for the production which might be developed.

When it is considered there are 20 pools in this section of Kansas which do not have pipe line outlets, the importance to operators, lease owners, drilling contractors and equipment manufacturers of construction of pipe lines into this area may be visualized. There are 12 pools in Russell County without a pipe line outlet at this time. Only 27 wells have been drilled in 10 of these pools, their potential production being 15,272 bbls. daily, all of which production is and has been shut in except what is being taken from the Milberger Pool in trucks by the Falcon Refining Co.

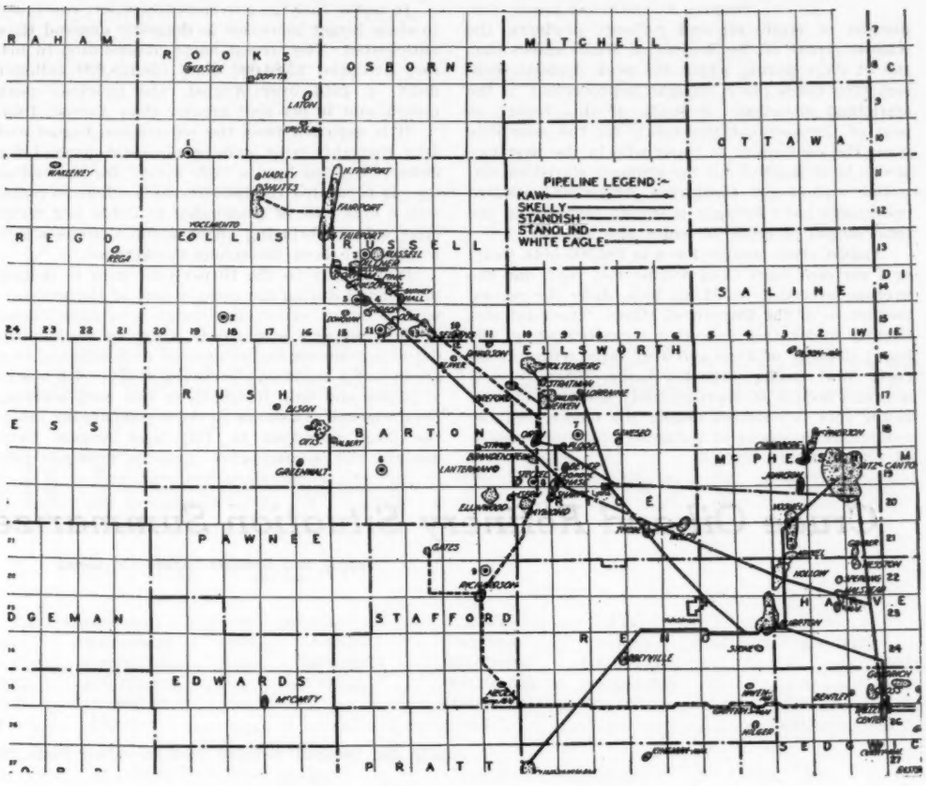
Business began to really pick up in a wide territory in this part of the State when the White Eagle division of the Socony-Vacuum Corp. announced recently it would construct an 8-inch pipe line from Valley Center to Chase and the Texas Co., Empire Gas & Fuel Co. and Phillips Petroleum Co. said they, jointly, would construct an 8-inch line from Chase up into Russell County, connecting with the White Eagle line at Chase. The latter three companies formed the Kaw Pipe Line Co. and construction of the two lines is under way now. In addition extensive gathering systems are being built in five counties in the area around Russell. The lines have a capacity of 20,000 bbls.

The Skelly Oil Co.'s pipe line is being projected farther into western Kansas and will give operators another 10,000 bbls. daily outlet. Skelly purchased the existing 6-inch line from Burrton to Lyons and has announced plans for the immediate extension of the line from Lyons west and northwest with a 6-inch line terminating for the present in the Lorraine Pool of Ellsworth County.

Other pipe line companies have had under consideration for several months extensions and additions to their lines and projects already under construction is expected to hasten decisions regarding further pipe line extensions. Just as pipe lines now being built will result in an increase in field operations, any production developed as a result of these operations will be an important factor in determining further pipe line construction. Rumors have been current for a long time the Continental has under consideration the construction of a pipe line from its system in Kansas, probably from near Valley Center, to Denver, Colo.

Eastern Colorado has been the scene of considerable exploratory work, 10 geophysical crews having been busy in that area during the past summer, and construction of a pipe line across this section undoubtedly would stimulate drilling activities, just as the development of any commercial production in that territory would probably hasten construction of the pipe line.

Operators in western Kansas have been forced to shut in discovery wells because of lack of outlets for the crude and, except in a few cases, additional drilling has awaited construction of pipe lines. Twelve pools have been opened in this area during the past three months as follows: (1) Rooks County, Tree Oil Co. and Findeiss' No. 1 Johnson, Section 26-10-19w; (2) Ellis County, Palmer and Storm King Oil Co.'s No. 1 Ruder, Section 17-15-18w; (3) Russell County, McMorrow and others' No. 1 Atherton, Section 30-13-14w; (4) Russell County, Hartman and Blair's No. 1 Rexroot, Section 31-14-14w; (5) Russell County, Wakefield and Armer's No. 1 Klick, Section 36-14-15w; (6) Barton County, Skelton Oil Co.'s No. 1 Ott, Section 16-19-14w; (7) Rice County, Aylward and others' No. 1 Rickard, Section 22-18-9w; (8) Rice County, Burrton and others' No. 1 Wendel, Section 32-19-10w; (9) Stafford County, C. D. Davis and others' No. 1 Ridley, Section 19-22-11w; (10) Russell County, J. Brouk and R. D. Bailey's No. 1 Kleusner, Section 34-15-12w; (11) Russell County, Nassau Oil Corp.'s No. 1 Krast, Section 27-15-14w; and (12) Russel County, Roth and Faurot's No. 1 Shaffer, Section 31-13-12w.



Map showing new pools and pipe lines in western Kansas

KANSAS POOLS WITHOUT A PIPE LINE

Russell County

Pool and discovery-location—	No. of wells	Potential prod.	Formation	Month discovered
GURNEY, Sec. 23-14-14w	4	1,320	Oswald	Feb.
SULLIVAN, Sec. 2-14-15	11	9,711	Topeka-Siliceous	March
DONOVAN, Sec. 10-15-15w	1	233	Oswald	Feb.
MILBERGER, Sec. 7-14-14w	1	187	Siliceous	May
EICHMAN, Sec. 34-15-13w	4	2,515	Siliceous	May
SO. NEIDENTHAL, Sec. 36-15-14w	1	178	Siliceous	July
(No Name), Sec. 31-14-14w	1	213	Siliceous	July
ATHERTON, Sec. 30-13-14w	2	560	Siliceous	July
BOXBERGER, Sec. 26-14-14w	1	148	Siliceous	July
CRAMM, Sec. 11-14-15w	1	207	Oswald	August
BUNKER HILL, Sec. 31-13-12w	1	Not taken	Oswald	Sept.
DUBUQUE, Sec. 34-15-12w	1	Not taken	Siliceous	Sept.

Barton County

EBERHART, Sec. 14-19-11w	1	162	Siliceous	June
LANTERMAN, Sec. 15-19-11w	1	199	Siliceous	January
OTTE, Sec. 16-19-14w	1	149	Lansing Lime	August

Stafford County

ST. JOHN, Sec. 23-24-13w	1	840	Siliceous	May

Trego County

WAKEENY, Sec. 14-11-23w	3	1,735	Oswald	Sept., '34

Ellis County

SCHOENEN, Sec. 17-15-18w	1	818	Oswald	August

Scott County

SHALLOW WATER, Sec. 15-20-33w	2	1,313	Miss. Lime	January

Rooks County

(No Name), Sec. 26-10-19w	1	256	Oswald	Sept.

Improvement in Statistical Position Is Shown by Bureau of Mines Report

By C. O. WILLSON

Despite a continued heavy production of crude oil and refinery products, the August report of the Bureau of Mines shows that the 31 days during which the peak domestic consumption takes place brought improvement in the statistical situation. A study of this report as part of the accumulative totals for the year supports the contention of those who in the past two weeks have pointed out the stronger statistical situation except for California where uncontrolled operations have brought a steady increase in the total output of crude oil since late August.

August crude production was 186,000 bbls. daily, or 7 per cent more than August last year, and the average exceeded by 81,000 bbls. daily the recommendation of the Bureau of Mines. The total was slightly under July and with a continuance of the heavy demand of June and July large withdrawals from total stocks were necessary. There was a seasonal decline of approximately 5,000,000 bbls. in motor fuel inventories during the month and the reductions in stocks of refinable crude oil exceeded 4,300,000 bbls.

In motor fuel the government's report continued to show larger increases in domestic demand than anticipated. The largest home consumption in history averaged 1,384,000 bbls. (58,128,000 gallons) daily, a gain over August, the previous peak month, and 10 per cent greater than August, 1934.

It is apparent from the reports for August and July that this large gain in domestic demand for motor fuels has been a "life saver" for the industry. It permitted the industry as a whole to maintain a high rate of production in fields and refineries without bringing about accumulations which would have been disastrous marketwise.

Due largely to the 10 per cent gain in domestic demand during the greater part of the summer, with a better export movement than anticipated, crude producers saw steady week to week withdrawals from crude inventories, and refiners as a group ended the main consuming season with stocks at plants and bulk terminals in line with working requirements. As shown in the accompanying table, the large increases in July and August have brought the accumulative gasoline demand gain for the first eight months in excess of 5 per cent over the same period last year. Earlier in the year the increase was running from 2.5 to 4 per cent in the monthly reports. The 9.6 per cent gain in gasoline exports for the first eight months is significant from the statistical angle as it ended, at least temporarily, a three-year period of steady declines in shipments to foreign buyers. It is now known part of the upturn in export buying of gasoline during the summer was due to the war scare in Europe.

The August report also shows some improvement in the statistical trend for products other than gasoline. As has been previously pointed out, the high rate of refinery operations deemed necessary to supply the gasoline demand brought surplus supplies of some other refinery products and this has been reflected in price reductions—notably heavy fuels at the Gulf and Atlantic seaboard. The small reduction in refinery operations in August, coupled with a gain in both the domestic and export demands for most products, was sufficient to make the surplus situation less apparent.

Crude Oil and Refinery Situation Summarized—First Eight Months

Supply and Demand—Crude Oil (Bbls.)

First eight months—	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Indicated domestic demand‡	Exports	Stocks refinable crude Aug. 31
1935	667,762,000	680,050,000	12,288,000	1.8	646,486,000	21,276,000	646,840,000	33,210,000	324,966,000
1934	632,149,000	635,362,000	3,213,000	.5	608,517,000	23,632,000	608,697,000	26,665,000	351,092,000
Increase, 1935	35,613,000	44,688,000	.....	...	37,969,000	†2,356,000	38,143,000	6,545,000	†26,126,000
Increase, 1935	5.6%	7.0%	.....	...	6.2%	†9.9%	6.2%	24.5%	†7.4%

Supply and Demand—Refinery Products—Motor Fuels (Bbls.)

First eight months—	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Domestic demand	Exports	Stocks Aug. 31‖
1935	302,048,000	302,285,000	237,000	.7	302,028,000	20,000	283,644,000	18,641,000	51,510,000
1934	280,477,000	286,184,000	5,707,000	2.0	280,476,000	1,000	269,184,000	17,000,000	54,228,000
Increase, 1935	21,571,000	16,101,000	.....	...	21,552,000	19,000	14,460,000	1,641,000	†2,718,000
Increase, 1935	7.7%	5.6%	.....	...	7.7%	.....	5.3%	9.6%	†5.0%
Kerosene									
1935	36,835,000	33,835,000	*3,000,000	*8.8	36,835,000	.....	29,435,000	4,400,000	9,398,000
1934	35,141,000	34,048,000	*1,093,000	*3.2	35,141,000	.....	27,493,000	6,555,000	7,651,000
Increase, 1935	1,694,000	†213,000	.....	...	1,694,000	.....	1,942,000	†2,155,000	1,747,000
Increase, 1935	4.8%	†.6%	.....	...	4.8%	.....	7.6%	†32.8%	22.8%
Gas Oil and Fuel Oil									
1935	240,274,000	241,389,000	240,274	.4	226,259,000	14,015,000	224,598,000	16,791,000	109,282,000
1934	230,963,000	234,988,000	4,025,000	1.7	222,302,000	8,661,000	216,376,000	18,612,000	118,979,000
Increase, 1935	9,311,000	6,401,000	.....	...	3,957,000	5,354,000	8,282,000	†1,821,000	†9,697,000
Increase, 1935	4.0%	2.7%	.....	...	1.7%	61.8%	3.8%	†9.7%	†8.1%
Lubricating Oil									
1935	18,014,000	18,696,000	682,000	3.8	18,014,000	.....	13,072,000	5,624,000	6,649,000
1934	17,686,000	17,947,000	261,000	1.5	17,686,000	.....	12,588,000	5,359,000	6,841,000
Increase, 1935	328,000	749,000	.....	...	328,000	.....	484,000	265,000	†192,000
Increase, 1935	1.8%	4.1%	.....	...	1.8%	.....	3.8%	5.0%	†2.8%
Petroleum Wax (Lbs.)									
1935	309,235,000	308,725,000	*510,000	*.14	292,600,000	16,635,000	169,424,000	139,301,000	136,646,000
1934	346,833,000	296,248,000	*50,590,000	*17.1	318,360,000	28,473,000	169,488,000	126,760,000	119,702,000
Increase, 1935	†37,598,000	12,477,000	.....	...	†25,760,000	†11,838,000	†64,000	12,541,000	16,944,000
Increase, 1935	†10.8%	4.2%	.....	...	†8.0%	†41.5%	†.03%	9.9%	14.1%

*Excess supply. †Decrease. Note—Total supply equals domestic production plus imports. Total demand equals domestic demand plus exports. Data on demand for refined products are based on refinery shipments. ‡Crude oil only. ‖Includes finished, unfinished refinery gasoline and natural gasoline.

Crude Oil Runs to Stills and Total All Oils (Bbls.)

First eight months—	Total imports§	Total exports§	Total crude to stills	Nat. gasoline production	% Gasoline yield from crude oil‡	Total supply all oils*	Total demand all oils*	Stocks all oils Aug. 31
1935	35,584,000	80,537,000	629,502,000	24,800,000	46.2	708,041,000	714,136,000	558,053,000
1934	33,253,000	75,875,000	595,657,000	23,712,000	46.8	666,702,000	678,642,000	590,258,000
Increase, 1935	2,231,000	4,662,000	33,935,000	1,088,000	....	41,339,000	35,494,000	†32,205,000
Increase, 1935	7.0%	6.1%	5.7%	4.5%	....	6.2%	5.2%	†5.6%

*Total all oils includes crude refined products, natural gasoline and benzol. †Decrease. ‡Includes natural gasoline blended at refineries. §Includes crude oil and refinery products. In case of gas oil and fuel oil and wax, imports include only products for domestic use. All data based on Bureau of Mines reports.

Oil fields and salt domes

Present Rate of Gulf Coast Exploration May Find All Reserves in Two Years

By NEIL WILLIAMS

HOUSTON, Tex., Oct. 7.—With the increasing amount of geophysical work going on in the Gulf Coast and Southwest Texas there has been some speculation as to how long this can keep up. It has been predicted by a few authorities that at the present rate of activity every promising salt dome prospect or oil structure will be located within the next two years. If this is the case it will be possible to know fairly definitely at the end of that time what petroleum reserves may be expected from these districts.

At this time there are 107 geophysical crews active in South Louisiana and South Texas, embracing the districts designated as the Louisiana Gulf Coast, the Upper Texas Gulf Coast, the Lower Texas Gulf Coast and the Valley and Laredo areas, but not including the fault line, Edwards Plateau and other parts of Southwest Texas. They represent reflection and refraction shooting, torsion balance, magnetometer, gravitometer, pendulum and electrical instrument parties.

Number of Crews

The crews by districts and instruments follow:

	Reflection	Refraction	Torsion balance	*Misc.	Total
Louisiana Coast	24	2	20 (52†)	6	52
Upper Texas Coast...	22	1	14 (26†)	4	41
Lower Texas Coast...	5	..	5 (18†)	2	12
Valley-Laredo area ..	2	..	..	..	2
Total	53	3	39 (96†)	12	107

* Miscellaneous includes magnetometer, gravitometer, pendulum and electrical instruments. † Instruments.

The number of crews working is the largest in the history of these districts and reflects the growing recognition of the need for finding additional petroleum reserves. All the companies are intensifying their efforts to improve their respective crude positions. The number of crews has been increasing constantly.

How long it would take this number of crews to work the districts thoroughly and locate every promising salt dome prospect and oil structure would be difficult to answer. In 1916 many leading geologists stated they would be able to map every geological structure in the United States within five years, ending their work in 1921. How far short their conclusions fell can be perceived.

With the present number of crews it would be possible, no doubt, to make a complete geophysical survey of South Louisiana and South Texas (exclusive of the fault line and Edwards Plateau) within a little less than six months. One average shooting crew under favorable conditions can cover, approximately 80,000 acres, or 125 square miles, a month. One hundred crews can cover, on this basis, 12,500 square miles a month. In the district embracing 38 parishes in South Louisiana and 53 counties in South Texas, there are 74,576 square miles, which covered at the rate of 12,500 square miles a month, would require 5.97 months.

Checking and Rechecking

No such rate of work is being carried out, and no such program of geophysical exploration is being followed. In the first place, there is considerable duplication of work by the crews. Each of the larger companies working the territory has its own crews and generally an area will be worked by all the companies and possibly by various methods and types of instruments, to check and recheck.

It is a fact, however, that the part of the Gulf Coast district not worked represents a comparatively small percentage of the total, and that the greater part of the territory has been gone over not only once but several times. Most of the unworked or partially worked areas represent less accessible regions where operators have been delayed by increased costs and problems not justifiable so long as there were other areas to occupy attention, or areas in which the application and interpretation of geophysics has been considered uncertain.

While it may be possible to work by geophysical instruments all the remaining unexplored and partially exploited acreage in the Gulf Coast and Southwest Texas in one, two or even three years, the question is when will it be known that all the salt dome prospects and structures have been found?

Geophysical exploration will end when the rate of discoveries drops to a point at which it no longer is economically feasible for a company to continue, when the profits from new fields found by geophysics do not justify the cost of finding them.

Naturally each prospect found and field opened makes one less to be discovered. In the Gulf Coast district alone, that part embracing all of South Louisiana and that portion of the Texas coast known as the Upper Texas coast, there are 125 proven fields and salt domes, and with these out of the picture and others being added to this list, the chances of locating more are becoming smaller and smaller.

So far the limit apparently has not been reached. A greater part of the Gulf Coast has been worked over many times and it would seem in this intensive exploration all fields and prospects would have been brought to light before now, yet each time additional discoveries are found.

Geophysics is a science of changing pictures. What may not be considered a favorable prospect today may be the field of tomorrow. Geophysical interpretations are based largely on known types of fields, and in the exploration for these types various anomalies are always found which may not be interpretable at the time, but whose answer may be found in the later drilling of one of the areas. When the explanation is given, the way is opened for renewed geophysical work on all these old areas.

When geophysics first was introduced to the Gulf Coast, companies could think only in terms of the shallow, piercement salt dome. Many areas were condemned, now some of the coast's most prolific fields. Some company drilling on a chance on one of the anomalies found in the first exploration stumbled upon the nonpiercement type of dome. With the answer to this anomaly, geophysical exploration was started all over again for this type of field, and areas formerly condemned became first rate prospects.

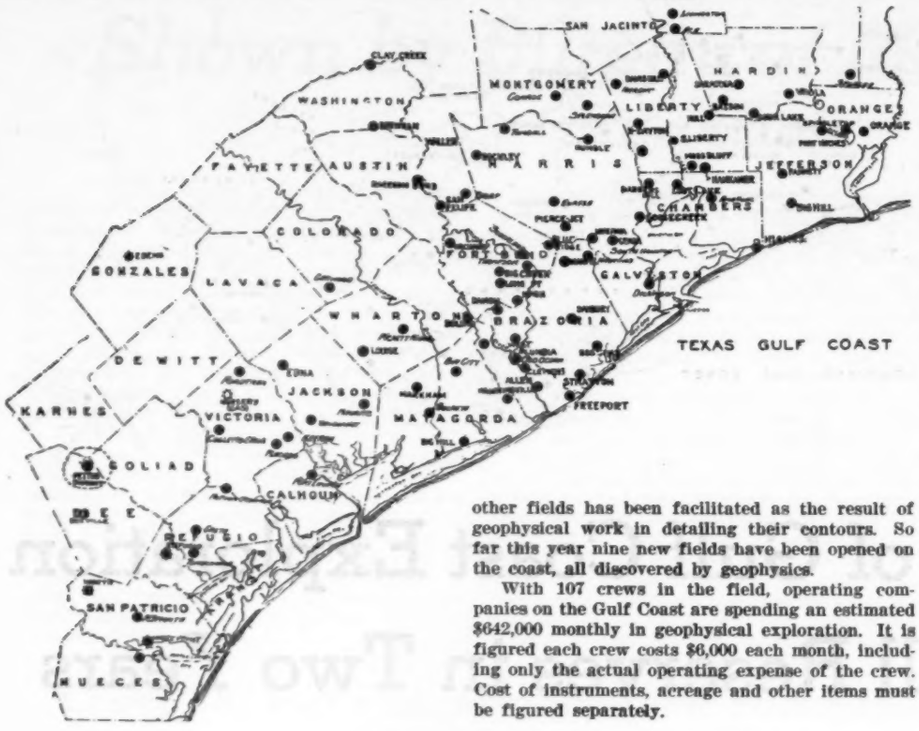
New Interpretations

Geophysics constantly is running across new and puzzling conditions which cannot be explained in the light of pictures known at the time. Manvel, one of the leading fields on the coast, was passed up for years simply because no one was able to interpret it.

For some time a type of structure showing small closures, as little as 200 feet, have been encountered in geophysical exploration. These have been passed up as undesirable. Lately, Continental Oil Co. drilled one of these at Tepetate, in northwest-

ern Acadia Parish, and got a good well on the first try. Two other major companies had worked this area and had given it up.

The result of geophysics on the Gulf Coast have been outstanding. Of the 125 proven fields and salt domes in the Gulf Coast proper, 68, or more than half, owe their discovery directly to geophysics. In addition, there are more than a half dozen in which geophysics has played an important part in discovery; also development of many



other fields has been facilitated as the result of geophysical work in detailing their contours. So far this year nine new fields have been opened on the coast, all discovered by geophysics.

With 107 crews in the field, operating companies on the Gulf Coast are spending an estimated $642,000 monthly in geophysical exploration. It is figured each crew costs $6,000 each month, including only the actual operating expense of the crew. Cost of instruments, acreage and other items must be figured separately.

California Oil Price May be Revised Upward If Not to Dollar a Barrel

By L. P. STOCKMAN

LOS ANGELES, Calif., Oct. 7.—Although there is very little tangible evidence to support the general belief that California crude oil prices will be revised upward in the near future certain developments within the past week indicate the probability that something definite will materialize along this line within the next 15 days. It appears rather doubtful, however, that crude will be put back on the basis of $1.00 per barrel unless there is some assurance that refined oil prices would move upward in sympathy with higher crude prices and the further assurance that curtailment would be made effective. Major buyers, although they have neither approved nor rejected the production schedule prepared by independent producers, are rather dubious that California can absorb approximately 590,000 bbls. of crude per day during October, November, and December, without adding to stocks, especially in view of the fact that this allowable does not include an overage of about 30,000 bbls. per day being registered by Kettleman North Dome Field. That there is some difference of opinion regarding the probable demand for crude during the balance of the year is evidenced by no comment being forthcoming as to the merits or demerits of the new production schedule. It will be recalled that Standard Oil Co., when reducing crude prices on August 29, stated that "When it is again demonstrated that production can be controlled to keep within consumptive demands it is to be hoped conditions will justify a return to higher prices." Major buyers are apparently waiting to determine the effectiveness of the new curtailment program and its effect on stocks. If conditions do not show the desired improvement in the immediate future we may anticipate 75 cent oil instead of the previous top of $1.00.

The lifting of curtailment in several Los Angeles Basin fields and their failure to show substantially increased production revives question of the ability of California to produce and indicates that the established potential daily production of the state has been of a fictitious nature. During August, California was assigned a potential factor of 1,543,593 bbls. and a normal potential of 1,140,645 bbls., but in view of recent developments the state could not possibly produce even 1,000,000 bbls. per day on unrestricted production for any length of time. These potential figures have tended to intensify curtailment. It appears probable that curtailment in only a restricted form will be necessary within six months, provided operators in fields showing flush or semi-flush production hold production within reason. There are a number of fields capable of substantially increased production, but these reserves are in strong hands.

Failure of Long Beach, Alamitos Heights, Santa Fe Springs, Huntington Beach and Playa Del Rey Fields to show appreciable increase following lifting of curtailment is evidence there has been very little effective proration in these districts despite official figures. Production is still being restrained in the Dominguez, Inglewood, Ventura Avenue, Kettleman Hills, North Belridge, Midway-Sunset and similar districts.

Crude production in California is tapering off and it is probable most fields will be in line with curtailment soon, but it is doubtful whether production during October will be down within striking distance of 600,000 bbls. per day due to overages at Kettleman Hills and in one or two other areas. If production continues at this rate during October, November and December, an addition to stocks may be expected unless offshore shipments show a substantial increase.

Under the allotment of 590,700 bbls. per day for October, San Joaquin Valley fields have been given 254,000 bbls.; coastal areas, 59,500 bbls., and Los Angeles Basin, 277,200 bbls., an increase of 17,750 bbls. for San Joaquin Valley, 2,000 bbls. for the coastal region, and 40,950 bbls. for Los Angeles Basin. The allotment is 60,700 bbls. per day above September. Mountain View Field has been stepped up 14,370 bbls. to produce 35,170 bbls. daily. Huntington Beach is allotted 46,190 bbls. per day, 11,390 bbls. over September. Santa Fe Springs is expected to average 45,000 bbls. per day during October, an increase of 10,650 bbls.

For 30 days Kettleman Hills has been producing far in excess of its share and production may be stepped up 10,000 or 15,000 bbls. per day if production activities continue. Nature will correct the situation in the North Dome within 60 or 90 days, because operators are centering production on acreage surrounding Superior Oil Co.'s Huffman lease. This area is being depleted at a rapid rate.

OBITUARY

GEN. JACOB F. WOLTERS, of Houston, Tex., aged 64, general counsel for the Texas Co., died suddenly at Austin, Tex., October 8. He had charge of the troops in East Texas during martial law. He was born in New Ulm, Austin County, Texas, September 2, 1871.

DR. FREDERICK L. RANSOME, 67, geologist, died at his home in Pasadena, Calif., October 6. He had been associated with the California Institute of Technology since 1927. He was an honorary member of the Belgium Geological Society and the Geological Society of London.

WALTER CRANDALL, of the Associated Oil Co., San Francisco, Calif., died in a plane crash near Cheyenne, Wyo., October 7.

GEORGE W. MAYER, aged 77, former director of the Standard Oil Co. (New Jersey), died last week while on a visit to his former home at Oakville near Toronto, Ontario, Canada. Mr. Mayer resigned at the end of 1925 after 47 years' service with the Standard Oil organization, the last four in the capacity of marketing director of the New Jersey company. He was born in Madison, Ind., January 28, 1858. As a boy he was a cow hand and for four years participated in the drive of beef cattle from Texas to the stockyards in Kansas City, Colorado and Montana. When this business was bankrupted by drought in 1879 Mr. Mayer was hired by the Consolidated Tank Line Co. of Cincinnati and opened a branch in Fort Dodge, Iowa. In 1893 this company was absorbed by Standard Oil Co. of Kentucky. Mr. Mayer continued in positions in Sioux City, Kansas City and Detroit until 1913 when he was made vice president and marketing director of Imperial Oil, Ltd., in Toronto, Canada. He went to New York early in 1922 and on his retirement took up his residence in Beverly Hills, Calif.

Reservations for 10 Cars Made on Journal's Special Train

Reservations for 10 cars already have been made for The Oil and Gas Journal's special train over the Santa Fe Railroad to the sixteenth annual convention of the American Petroleum Institute in Los Angeles, November 11-14. With many companies just deciding which of their officials should attend the meeting, a far greater number of reservations are expected within the next week or so.

The acme of service and comfort is the keynote of the Journal's special train. This train is the fastest between Chicago and Los Angeles and the only train to California charging extra fare, this extra fare being $10 from Chicago or Kansas City. Reservations are being made on this train by those in the oil business desiring a quick, pleasant and comfortable trip to California, with the best of service that modern railroading provides and because of the exceptional opportunity offered of becoming better acquainted with those in the business from all sections.

World Oil Situation Affected by War and European Nationalistic Policies

By C. O. WILLSON

NEW YORK, Oct. 7.—What effect will the European and African war preparations have on the oil industry in the United States?

This question, asked often in recent months, increased in importance as actual hostilities were begun, coupled with the possibility the warfare may spread to involve European nations occupying important positons in international oil operations. It has been predicted that the war activities will suspend at least temporarily the normal movement of crude and refinery products in the Mediterranean and that an overnight demand for North and South American oil will result, a development of major market significance in this country.

Some observers, however—including those with large oil holdings in foreign countries—feel the war threat from the standpoint of the oil industry has been greatly exaggerated, with any market significance already discounted. Still another group, with major oil interests involved, are inclined to be noncommittal, saying in effect, "Wait a week or longer until we see what the English and French are going to do," leaving the impression that the major moves bearing on world oil operations are yet to be made, if they materialize.

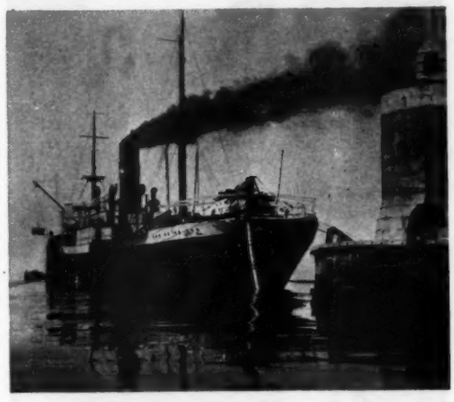
Among this group discussions of recent developments are tied in with the oil policies of many nations in the making for two or more years. Aside from the present war scare, it is no secret among those familiar with foreign oil operations that conditions in several countries have pointed to the approach of a crisis centering around the economic production and distribution of petroleum products.

In their efforts to prepare for national emergencies and foster home industries these countries have built up artificial barriers aimed particularly at the oil industry which are certain to have significance in world market trends in peace or war times. The domestic operator who endeavors to obtain a clear picture of the present oil situation outside the United States becomes lost in a maze of import quotas, regulations fostering home industries, labor laws, enforced use of alcohol and other petroleum substitutes, reciprocal trade agreements, subsidies, price fixing, excessive taxes and last but not least, exchange restrictions. These varying and often contradictory factors make the present domestic situation, with its California, East Texas and Rodessa, appear tranquil and orderly.

Rumanian Oil to Italy

The workings of these nationalistic policies have been indicated in the trading of the past week. French buyers have made inquiries in this country for substantial quantities of gasoline for prompt lifting and delivery later in the year, and the Gulf market has strengthened fractionally. The expected French business is said to be largely because Rumanian refiners, the controlling factor in European markets under normal conditions, have been unable to furnish the gasoline because of trade agreements with Italy and Germany. Italy this year, through a reciprocal trade agreement, has given Rumanian sellers a larger proportion of Italian petroleum imports which have increased due in part to war preparations. Under license arrangement Italy has controlled imports of private interests this year and in carrying out her agreement with Rumania has forced these privately owned companies to buy up to 50 per cent of their requirements from Rumania, although in several cases these companies would prefer to obtain supplies from affiliated interests in other countries.

This situation removed Rumania, from the European spot gasoline market, starting several months ago. Its Constantza prices have been consistently higher than competitive markets, and this accounts for the improvement in export movement from this country in the past four months. This has not meant higher prices because there were other factors working on the down side of the



Loading Oil on Tanker

market, but this unexpected shifting in oil movement has had importance in the operations of several companies both large and small.

Price Cutting in India

Rumania and Germany also have had trade relations under which Germany bought more of the Rumanian crude and refinery products and Rumania in turn purchased supplies and equipment from Germany, including that used in the production, transportation and refining of petroleum. Back of these reciprocal trade arrangements are the efforts to protect home industries, secure a favorable balance of trade and protect currencies. How far reaching and incongruous these efforts may become is shown in the German situation. To secure a favorable trade balance Germany grants what amounts to bonuses or subsidies to exporters. Under this arrangement German exporters have become factors in the kerosene market of India, where they have undersold the established markets of those who have operated in that area for years. The unusual feature of this trading is that the petroleum products involved

Deck of a Tanker

originate in Rumania. Sellers in Rumania would not attempt to compete in the kerosene market of India on a price-cutting basis, but the German seller, with his government's subsidy, has the necessary margin even after the additional transportation cost in shipping the product from Rumania to Germany. Private oil companies operating in Germany, controlled by major oil interests, have been buying Rumanian crude or refinery products, although they have other sources of supply which could more economically furnish their requirements were it not for trade restrictions. The great problem of the oil company or equipment manufacturer selling in Germany is to secure an exchange for the German mark without absorbing ruinous losses.

Numerous similar situations could be cited illustrating the difficulties of intercountry trading due to obstructions set up by nationally minded governments bent on securing home controlled oil supplies and opportunity for revenues in taxing an industry which continues to expand despite all the obstacles in its path. This situation has been aptly summarized by one commentator who says operations in many foreign countries are 90 per cent political and 10 per cent oil.

In a trading situation of this kind, major companies operating in several countries with affiliated interests in other lines of industry, usually have an advantage over smaller independent concerns. They often can work out an exchange of currency and secure ultimate payment for their products or services in a currency which has a par or near par rating in international exchange. But even these major companies have been faced with impossible situations in certain countries with the result that they have been forced to take speculative risks in accumulating currencies occupying unfavorable trade and political positions at this time.

Restricting Operations

There is some evidence that these nationalistic programs are working a hardship on producing and refining units in certain countries and regardless of war developments will result in a permanent loss in output which in turn will mean increased business to competing countries. Particular reference is made to the U.S.S.R. and Rumania. These countries which rank second and fourth, respectively, in the world's production, are having difficulty maintaining their output due largely to a lack of modern equipment and supplies. No official reports on production have been issued regarding U.S.S.R. since early in the year. Exports from that country have declined 28 per cent this year and are now approximately 50 per cent of the peak. While the country's crude production is supposed to be maintained around the last year average of 450,000 bbls. daily there are unofficial reports that the production has shown a decline in recent months which accounts for the decrease in exports.

Rumanian production has ceased to show the gains reported earlier in the year and in 1934 and present output is about the same as a year ago. Both countries are in need of drilling and operating supplies and in the case of the U.S.S.R. large expenditures are needed to modernize its refinery operations. Trading agreements and exchange restrictions are limiting purchases from countries in the best position to furnish them. If this situation continues it will enlarge the export oil outlets for the United States and other countries.

Exchange and financial positions are stressed by those familiar with foreign conditions when they are asked regarding probable developments in the event of a European war. In such an eventuality payment in acceptable currency will become of

increasing importance and it does not follow that all countries will be able to buy oil supplies no matter how much they may be needed. This is tied in with the restrictions in regard to credit to those countries still to make satisfactory adjustments.

Another contingency is the position of the United States in trading with warring nations under the neutrality act. Questions in connection with this policy were only partially answered in the President's proclamation placing an embargo on the "exportation to Ethiopia and Italy of arms, ammunition and implements of war." So far the embargo is confined to munitions and implements actually used in warfare. This includes airplanes and airplane engines but not motor vehicles. It is contended by some Congress intended a much wider embargo and that if the war spreads, this will result in a new proclamation to include all types of transportation used in warfare including fuels. Such a policy obviously would remove this country from the direct benefits of a war time demand for petroleum products. It is pointed out, however, that by enlarging the world demand and restricting supplies from certain countries there would be general tightening in world markets.

Mediterranean Situation

The Mediterranean has been termed the "most important oil transportation medium." All the main crude producing areas of Europe and Asia are dependent upon it for the movement of their products. The 50 per cent increase in war risk rates on marine insurance is of direct concern to shippers of oil products.

Depending on the Mediterranean for movement of oil products are the fields and refineries of Rumania, U.S.S.R. and Iraq. Iranian (Persian) products use the Mediterranean via Suez to western consumer outlets. At present exports from U.S.S.R. amount to 60,000 bbls. daily, of Rumania 125,000 bbls. daily, and Iraq through the Tripoli and Haifa terminals, 85,000 bbls. daily. Just what percentage of the Iranian production of 140,000 bbls. daily goes through the Mediterranean is not known. The bulk of it is refined at the Abadan, Iran, refinery of Anglo-Iranian Oil Co., Ltd. and distributed east and west. In the event of tie-up in the Suez Canal and Mediterranean, shipments to Europe could be diverted around South Africa.

So far Italy has been able to move oil products purchased from several countries through the Mediterranean, the canal and the Red Sea to the ports of Eritrea and Italian Somaliland. American sellers have participated in these war preparations to the extent of approximately 2,000,000 bbls. of products in recent weeks. Some of this business is for delivery later in the year and is contingent on the seller being able to make delivery. Satisfactory payments for the spot purchases have been arranged. Boats for these shipments have not been easy to obtain. The war risk is a factor in the attitude of the ship owners and the anticipated delay in unloading at the crowded and inadequate Italian ports of the war area, is another consideration.

Italy's War Purchases

Should the war be confined to Italy and Ethiopia no important increase in the demand for oil products is anticipated. Extra oil requirements of Italy in carrying on a land war and the movement of transport ships would not amount to more than a few thousand barrels daily and this is not sufficient volume to have permanent market significance. It is estimated Italy's purchases of oil products to take care of war and domestic needs have not exceeded 50,000 bbls. daily in recent months and this is only 10,000 bbls. daily above the 1934 average. So long as the war is confined to these two countries no serious interference with the normal movement of petroleum products in other countries appears likely.

In furtherance of its policy of providing adequate oil supplies for the navy the Italian government has appropriated an additional 337,000,000 lire (approximately $3,000,000) for the purchase of fuel oil and storage facilities. This program is to be carried out over a period of seven years. It is assumed this government storage plan is part of a general program now being carried out which calls for the development of a refining industry sufficient to provide domestic requirements coupled with large storage facilities by private oil interests operating plants in that country.

A. A. P. G. Will Meet in Mexico With San Antonio Geological Society

Sr. Ing. Ezequiel Ordonez, Mexico City, former geologist for the Geologic Institute of Mexico, former chief geologist for the Doheny interests and discoverer of Tampico oil field

Elaborate plans have been made for entertainment of geologists from throughout North America who will attend the annual convention of the San Antonio (Tex.) Geological Society (designated this year as the midyear meeting of the American Association of Petroleum Geologists also), to be held October 16 and 17 in Mexico City. The entertainment program, in which the Mexican government is co-operating, includes trips to the Pyramids, various museums, Chapultepec Castle, Desert of the Lions, and a trip to Taxco, the highlight of the convention. In addition, the geologists will be guests of Ambassador Josephus Daniels at a reception in the American Embassy. A special concert is being arranged by the Mexican National Symphonic Orchestra to be held in the Palace of Fine Arts, one of the world's most beautiful buildings. A trip is also scheduled to the Tampico oil fields.

Registration for the convention will be at the Hotel Regis in Mexico City. The San Antonio Geological Society, headed by Joe Dawson, has made complete arrangements for transportation and accommodations. All reservations can be made through Adolph Dovre, secretary of the society. Most of the 400 geologists already registered plan to drive to Mexico City over the newly opened National Highway. Train and air service is also available, at special rates. Official opening of the new highway took place September 17, although it has handled constant traffic for several months. The route is now open in two-car traffic width throughout its length. All construction work is completed, and the danger from blasting and from falling or caving rock is past. Of the 935 miles between San Antonio and Mexico City, 815 is hard, smooth surface pavement. The remaining 130 miles is flat gravel highway in good condition. The only possible hazards on the trip would be encountered at the three major river crossings, where ferry service is interrupted at flood stage. The dry season prevails in October, however, and the rivers are at normal stage. Suggested stages for those planning to drive are to spend the first night in San Antonio, the second in Monterrey and the third in Tamazunchale. Ample hotel accommodations are available at these points. Tamazunchale marks the beginning of the mountainous country. The new national highway represents a major engineering feat, traversing different types of terrain.

An excellent geologic road map in colors and on a large scale with topographic outlines has been prepared for each person making the trip, together with a geologic road log describing the formations crossed. This map has not been available heretofore from any source.

The committee in charge of the convention includes William G. Kane, chairman; Dr. Ezequiel Ordonez, co-chairman; William H. Spice, Jr.; Philip S. Schoeneck; Thornton Davis; Lowell J. Ridings; Olin C. Bell.

To insure the best accommodations in regard to transportation, passports, and information, geologists should communicate as promptly as possible with Adolph Dovre, secretary of the San Antonio Geological Society, San Antonio, Tex.

As an added feature of the joint meeting, the second re-enactment of the historical pageant depicting the history of the Aztec Indians has been postponed until Sunday, October 19, to coincide with the convention date. This colorful spectacle involves some 2,000 Indians in native costume, and will take place at the Pyramids outside Mexico City.

Joseph M. Dawson, zone agent, Gulf Production Co., San Antonio, Tex., president, San Antonio Geological Society

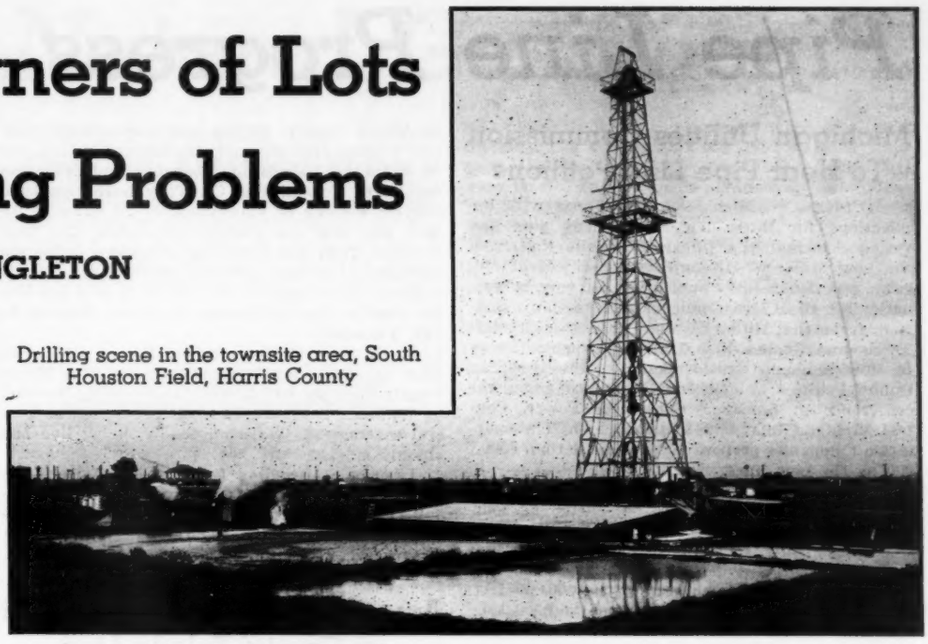
Texas Sells 4,665 Tank Cars to Pennsylvania-Conley

Details regarding the recent announcement of purchase of tank cars from Texas Co. by Pennsylvania-Conley Tank Car Co. show 4,665 cars were involved. The sale involves an agreement whereby Pennsylvania-Conley agrees to furnish all tank car requirements of Texas Co. Pennsylvania-Conley will also take over operation of all tank car repair shops of Texas Co. at Providence, R. I.; Bayonne, N. J.; Marcus Hook, Pa.; Norfolk, Va.; Jacksonville, Fla.; Lawrenceville, Ill.; Lockport, Ill.; Tulsa, Dallas, Tex.; Port Arthur, Tex.; Casper, Wyo.; Portland, Ore., and Los Angeles, Calif.

The contract was decided upon by Texas Co. after an investigation convinced officials substantial economies would result. The company has been one of the largest operators of tank cars.

City and Owners of Lots Solve Drilling Problems

By F. L. SINGLETON



Drilling scene in the townsite area, South Houston Field, Harris County

HOUSTON, Tex. — Development of the South Houston Field, Harris County, by Stanolind Oil & Gas Co. is throwing more light on the potentialities of this field, which was discovered in June of this year. The company has completed three flowing wells and with three rigs running and permits taken out for eight more tests the past week, the importance of the field as a future oil reserve is expected to be known within the next few weeks.

One of the interesting features of the development is the manner in which the South Houston townsite area is being drilled. The townsite is composed of 4,500 town lots, of which 80 per cent are under lease to Stanolind Oil & Gas Co. South Houston had been looked upon as a favorable prospect for some time, but the large number of town lots which always offer an unfavorable leasing situation, made other companies and independents hesitate.

The present systematic method of development was made possible by the co-operation of the property owners and the South Houston city council. Most of the lot owners realized the importance of an orderly development program and the impossibility of having a well on each lot as was advocated by some operators, and they joined with the city council and Stanolind Oil & Gas Co. in working out a plan whereby all owners of lots would share and share alike in all production developed in their respective drilling districts.

After the city council had passed an ordinance last February regulating the drilling of oil and gas wells within the city limits, the townsite was subdivided into 81 drilling districts, each of which contains four city blocks or a total of 64 lots. The total acreage to each district is approximately 16 acres and only one well is allowed for each district, with the one-eighth royalty from the well divided equally among the lot owners. Outside the townsite the Railroad Commission recently amended its spacing rule to conform with that of the city council, which reduced its original order of one well to 20 acres.

Spacing Rules

The rules and regulations governing the spacing of wells was attacked recently before a three-judge federal court in Houston and the decision is expected within the next week or so.

While South Houston is in its early stages of development and little can be said about its potentialities or probable size, it has been definitely proven that there is no great extent of a uniform sand condition. The blanket sand body that has been found in the majority of the late discoveries on the coast is missing. This characteristic in many respects is similar to the Goose Creek Field located to the southeast, which is producing from lenticular sand 1,200 to 4,600 feet deep, with the oil of varying gravities.

This condition has been found to exist in four wells from which production has been developed. Two of the wells are producing from the Miocene sand and two from the Oligocene sand, with the oil in each well of different gravity. In the discovery well, No. 1 fee, production was found in the Miocene sand from 4,663-80 feet, with the oil testing 26 gravity. Approximately a mile due north in the Callahan and Vince Survey, No. 1 First National Bank, the only well completed outside the townsite, was also in the Oligocene at 4,753 feet, with the gravity of the oil 18.5. Due south about 1,500 feet and 3,500 feet north of the discovery well, No. 1 Burkey was completed in the Miocene at 4,062 feet and the gravity of the oil tested 20.9. Southeast about 1,500 feet and about the same distance north of the discovery, No. 1 Gibson was also completed in the Miocene, flowing 25.6 gravity.

An unusual condition, which shows that the overlying formations are broken and irregular, is brought out by the geological formations encountered in two producers. In the discovery well the Discorbis was topped at 4,500 feet, with the Heterostegina and the Marginulina missing to the top of the Frio, encountered at 4,745 feet. To the north about a mile the First National Bank producer topped the Discorbis at 4,253 feet and the Heterostegina and the Marginulina, which was not encountered in the discovery well, was topped at 4,398 feet and 4,598 feet, respectively. Based on the Discorbis the First National Bank producer is 247 feet higher than the discovery well.

No Domal Formation

Although production of South Houston is typically that of a salt dome, and other indications are those of a salt dome, no salt or domal formation has been found. The field is of the nonpiercement type of dome or structure, in which it is believed that salt, if it exists, is at exceptionally great depths. While it is believed that the field is producing from lenticular sands, it is not known how thick these lenses may be, although it is believed that they are much thicker than those found at Goose Creek. So far the Miocene sand has offered the most prolific producers, although the initial yield of the two producers was relatively small. The Burkey producer in Block 105, Lot 15, was brought in from a total depth of 4,062 feet and flowed 324 bbls. per day through a quarter-inch choke with tubing pressure 400 pounds and casing pressure 900 pounds. Southeast, in Block 41, No. 1 C. E. Gibson was completed at a total depth of 4,030 feet for an initial production of 432 bbls. a day through a quarter-inch choke with tubing pressure 530 pounds and casing pressure 130 pounds.

Although the First National Bank producer was completed for a small well and showed no pressures on the tubing or casing, it has been flowing its allowable of 150 bbls. a day. It was brought in from a depth of 4,573 feet for an initial production of 155 bbls. a day through a three-quarter inch choke. The discovery well, No. 1 fee, had the appearance of making a good well, but owing to mechanical trouble which developed shortly after it was completed, is being drilled deeper in search of a new sand. It made its initial flow through perforated casing from 4,663-80 feet and made 161 bbls. in 24 hours through a one-quarter inch choke with tubing pressure 675 pounds and casing pressure 1,000 pounds.

Seven of the eight locations announced the past week were made possible by the completion of the Gibson and Burkey tests, which obligated the company to drill offsets in the four adjoining drilling districts. Offsetting the Gibson well, locations were made in Block 7, district No. 5; Block 32, district No. 8; and Block 17, district No. 19. Offsetting the Burkey producer, locations were made in Block 102, district No. 27; Block 71, district No. 22, and Block 62, district No. 21.

With three producing horizons already proven and the existence of an irregular sand condition it is almost impossible to theorize as to the trend of the field. However, at the present time the prolific part of the field seems to lie in a north and northeast direction from the discovery well. This opinion is based on the showings made by two wells located northeast and southeast of the discovery well which are drilling below 5,500 feet without any shows of oil or gas reported. These tests, however, may encounter a deeper sand and change the appearance of the field entirely. Consequently they cannot be condemned until they are abandoned. The contract depth of the two tests, No. 1 Hartow and No. 1 Wells, is 6,000 feet, but they may be carried deeper.

The second location to be made outside the townsite was that for No. 1 Meaderbrook Development Co., located on a 119.6-acre tract, about 3,000 feet northeast of the First National Bank producer.

The structure of South Houston was found by the use of the torsion balance, worked by the company's crew, and was checked with reflection seismograph shooting. The total acreage under lease to Stanolind Oil & Gas Co. is approximately 5,100 acres.

The usual drilling practice is to set 16-inch pipe at approximately 100 feet and 10-inch surface casing at around 1,700 feet, followed by a production string of 7-inch casing usually cemented just below the top of the sand. In order that the residents of South Houston might not be disturbed during night drilling, special mufflers have been placed on the pumps to decrease the noise of the rig. It has been estimated that a well to the Miocene sand at 4,000 feet may be drilled for $25,000.

Navy Buys Oil

WASHINGTON, D. C. Oct. 7.—Contracts for 2,550,000 bbls. of fuel oil costing $2,131,375 were awarded Saturday by the Navy Department. Associated Oil Co., California, 550,000 bbls., $463,375; Union Oil Co., California, 1,000,000 bbls., $834,000; Texas Co., New York, 500,000 bbls., $414,000; Shell Oil Co., California, 500,000 bbls., $420,000. The oil will be delivered before June 30, 1936.

Now Standard of Texas

The Pasotex Petroleum Co. of El Paso is now the Standard Oil Co. of Texas. It is a subsidiary of the Standard Oil Co. of California, a Utah corporation, and its pipe line company is the Pasotex Pipe Line Co., all having offices in El Paso.

Pipe Line Progress

Michigan Utilities Commission To Hear Pipe Line Petitions

MUSKEGON, Mich., Oct. 7.—Faced with applications for three new natural gas pipe line systems, including a proposed 60-mile line from the new Millbrook-Hinton-Belvidere Field of Mecosta and Montcalm Counties to Lansing, a new outlet for the Clare County Field, and an extension from the Millbrook area into the Crystal-Ferris and Sumner-New Haven Townships areas in Montcalm and Gratiot Counties, the Michigan Public Utilities Commission has called a general conference in Lansing. Consumers Power, Central Michigan Pipe Line and Petroleum Transportation Companies propose to spend more than $500,000 on the new lines.

Largest of the three systems would be the Millbrook to Lansing line to be started as soon as right of way can be obtained by the Consumers company. Company officials said the line could be completed next spring. The company claims an immediate market for 900,000,000 feet a year with prospects of an increase to 1,500,000,000 feet within three years. Contracts already have assured a daily supply of 30,000,000 feet, it is said.

The new line would serve not only Lansing but also about 15 other communities within a radius of about 40 miles of the state capital now served with artificial gas from the Consumers' Lansing plant.

These communities include East Lansing, Ionia, Portland, Hastings, Charlotte, Eaton Rapids, Grand Ledge, Williamston, Webberville, Fowlerville, Howell, Brighton, Holt, Mason and Leslie. The new service would bring natural gas within 15 miles of Jackson, another of lower Michigan's major industrial cities.

Not only officials of the Consumers company but also A. Thomas Sarkisson, of New York City, and Alfred H. Doughty, of Lansing, and Lewis F. Wiegand, of Washington, D. C., heads of the Industrial Pipe Line Co., of New York, and Central Michigan Natural Gas Pipe Line Co., have been asked to appear before the state commission. Mr. Sarkisson in 1934 approached the commission with a proposal to lay a $4,500,000 gas line from Central Michigan fields to Saginaw, Flint, Pontiac and Detroit. Another concern proposed a $1,900,000 gas line from the gas fields to Lansing. The commission rejected both proposals.

The Petroleum Transportation Co. also petitioned the commission last week for permission to extend its present gathering line system in the Millbrook area recently completed at a cost of $25,000 to Ferris, Crystal, Day and Richland Townships, Montcalm County, and Sumner and New Haven Townships, Gratiot County, where several large gas wells and gas shows have been encountered this year during oil drilling operations.

The Gas Corp. of Michigan, also is involved in the new gas line development program now under way in Michigan, having started a line to connect the Clare Field, hitherto without an outlet, with its system already serving Mount Pleasant, Clare, Shepherd and other smaller communities in Central Michigan. The company plans to spend about $75,000 in new lines this fall. Five miles of 4-inch line will be laid from the Vernon Field to Clare wells.

A new 4-inch pipe line about 20 miles long is nearing completion from the Crystal Field to the McClanahan Refinery, Inc., at St. Louis, a 1,500-bbl. plant. Production from wells of the McClanahan Oil Co. in the Crystal area will be transported to the refinery through the new line. Pipe line offices probably will be established in Mount Pleasant, it was indicated by Walter L. McClanahan, head of both concerns.

Contracts Awarded

H. C. Price, Inc., of Bartlesville, Okla., has been awarded contract for electric welding approximately 18 miles of 6-inch, 10-inch, 12-inch and 16-inch line pipe for Phillips Petroleum Co. in Moore County, Texas, and contract for electric welding approximately 65 miles of 12-inch and 56 miles of 10-inch in Wyoming and Nebraska for North Central Gas Co. They have completed electric welding of approximately 22 miles of 24-inch gas line for Phillips Petroleum Co. near Sanford, Tex., and their San Francisco office announces it has been awarded contract for electric welding approximately 45 miles of 22-inch gas line for Pacific Gas & Electric Co. from Milpitas to San Francisco.

J. R. Stewart Construction Co. of Oklahoma City is the general contractor on the Moore County line, on which work has already started.

Williams Brothers, Inc., of Tulsa are the general contractors. Work on the Wyoming line has already started.

Lemons & Bradley, Inc., of Tulsa, were the general contractors on the Sanford project. Youdall Construction Co. of San Francisco is the general contractor on the Pacific Coast job, where construction has already started.

Award Construction Contract on Crystal-Toledo Line

MUSKEGON, Mich., Oct. 7.—Purchase of right-of-way for the new 140-mile oil pipe line to be laid from the Crystal Pool in central Michigan to Toledo by the Simrall Pipe Line Corp., of Mount Pleasant, and the Standard Oil Co. of Ohio, was started last week. The construction contract was reported awarded to the Franklin Tool Co. of Mount Pleasant, which is expected to start laying the line by the middle of October, aiming at completion within about 60 days, before the severe winter season.

Standard of Ohio, with a 12,000-bbl. refinery having a 4,500-bbl. cracking plant in Toledo, will be the principal outlet for the first crude to be run through the new line. Sun Oil Co., with a 14,000-bbl. plant, Pure with a 9,500-bbl. refinery and Gulf Refining Co. with a 13,000-bbl. plant, all with large cracking units, are other prospective customers.

It is planned to be ready to run 20,000 to 25,000 bbls. a day through the line, it was announced by Charles L. Maguire, president of the Simrall corporation. The two companies have a 50-50 interest in the line which is estimated to cost approximately $1,000,000.

Pasotex to Lay Line

FORT WORTH, Tex., Oct. 7.—Pasotex Pipe Line Co., subsidiary of Standard Oil Co. of California, which has a line from the Winkler County fields to the Pasotex Refining Co. plant in El Paso, Tex., is surveying for a possible extension from the Hendricks County terminus into the Ward County fields and may lay such a connecting line in the near future. The distance is around 40 miles, and if the line is laid will connect with the California Co.'s wells in Ward County, which have a daily allowable of around 3,500 bbls.

Lance Creek Contract

DENVER, Colo., Oct. 7.—Continental Oil Co. has awarded the contract for its 20-mile 4-inch line from the Lance Creek Field, in Wyoming, to Manville, on the Chicago & Northwestern Railroad, to the American Pipe & Supply Co., of Denver and Casper. Subcontracts will be let for part of the work. The line will cost around $75,000.

Michigan Gas Lines

MUSKEGON, Mich., Oct. 7.—Midwest Oil & Gas Corp. last week joined a group of five other concerns planning new natural gas pipe lines in Michigan by petitioning the State Public Utilities Commission for the right to lay mains in Montcalm and Gratiot Counties. The Midwest Corporation is seeking to gather natural gas in Crystal, Ferris, Richland, Home, Day and Evergreen Townships of Montcalm County, and Seville, Pine River, Sumner, Arcadia, New Haven, Newark and North Shade Townships of Gratiot County.

New Booster Station

Owing to the increased demand for gas on the north end of the Wichita-Superior line, Cities Service Gas Co. has completed a small booster station about 2 miles east of Hutchinson. It consists of three engines with a total of 325 horsepower.

This line supplies several salt plants at Hutchinson and Lyons, drilling gas in the new Chase Field west of Lyons, besides domestic and industrial gas to towns north of Lyons including Ellsworth, Lincoln, Minneapolis, Osborne, Beloit, Smith Center, Mankato, Kansas, and Superior, Neb.

Natural Gas

Texas Commission Cuts Rates at City Gate of Pipe Line

AUSTIN, Tex., Oct. 7.—Chairman Ernest O. Thompson of the Railroad Commission, in announcing the commission's order fixing the fair and reasonable price to be charged for gas at the city gate of the M. & M. Pipe Line Co., made the following statement:

"The order is a milestone in the fixing of rates in Texas in three particulars, first, it is the first order entered by the commission fixing a price to be charged for rural consumers, the people living on farms who get their gas direct from the pipe line. This reduction was 20 cents per 1,000.

"It orders the distributing companies, the Southern Union Gas Co. and the Texas Cities Gas Co., to pass on to the consumers the difference between the gate rate fixed by the order and the rate heretofore paid for gas at the city gate. And it fixes the price at the well head to be paid by the M. & M. at 5 cents instead of the 12½ cents heretofore paid.

"The Humble Oil & Refining Co. challenged the jurisdiction of the Railroad Commission to fix a reasonable price of gas to be charged by them at their stripping plant or the dry gas sand well, claiming that they were not a utility and were not subject to the orders of the commission. The commission found that the sources of their gas, both the wells and stripping plant, were in existence before the construction of the M. & M. pipe line and that the Humble Oil & Refining Co. had made a contract to supply the M. & M. with gas, in which it was provided that the M. & M. would secure enough customers to take a certain minimum amount of gas which it was obligated to do.

"The commission could not recognize the contention made by the Humble, and to have done so would have created an intolerable situation and would have placed the users of gas at the complete mercy of the owners and the producers of the gas. The commission does not believe that this

Eldon Glenn, pipe line foreman, Lone Star Gas Co., Waco, Tex.; J. D. (Jim) Cummings, of Crutcher, Rolfs and Cummings, Houston, and Luther Talbert, district superintendent of Lone Star Gas Co., Dallas

was the intent of the legislature when it enacted the statute that provided the Railroad Commission should regulate all matters pertaining to the production, transportation and sale of natural gas for domestic purposes in the State.

"The gas rate was fixed at 16 cents. This means a reduction of 19 cents per 1,000 cubic feet to every domestic consumer in the city of Brenham, and 14 cents in Navasota, Bellville, Columbus, Eagle Lake, Hempstead, Sealy, Waller and all communities served by Southern Union Gas Co."

P.W.A. Loan for Municipal Gas Plants in Court Test

DALLAS, Tex., Oct. 7.—Judge William H. Atwell in federal District Court set for hearing October 9 the application of the Texas Power & Light Co. to prohibit the city of Midlothian from erecting a municipal light and power plant under a P.W.A. loan. The petition of the utility company alleged that the city applied August 31, 1935, for a $90,000 loan to construct the projected plant.

It was contended that erection of the municipal plant would destroy the value of the company's property in Midlothian, which it fixes at more than $149,811, and cause it to lose an annual income of more than $10,000.

WASHINGTON, D. C., Oct. 7.—Two Texas utilities companies have filed suits in District of Columbia Supreme Court to prevent Secretary Ickes, public works administrator, from advancing loans for municipal power plants in four Texas cities.

The Texas Utilities Co. sought to block loans of $154,000 to Post, $126,000 to Littlefield and $150,000 to Plainview, and the Gulf States Utilities Co. protested against a proposed $200,000 loan to Huntsville. Both concerns claimed that their investments in the cities, valued at $520,000, would be endangered.

Enforcement of Texas Gas Law Restrained by U. S. Court

FORT WORTH, Tex., Oct. 7.—The Texas Railroad Commission has been restrained from enforcing its antigas wastage law against the Portland Gasoline Co. of Amarillo by Judge W. H. Atwell in U. S. District Court. The conservation measure was put into effect on August 1. In granting the order Judge Atwell set the show cause hearing for October 10 before Judge James C. Wilson at Amarillo.

The order permits the complaining company to produce up to 25 per cent of the potential of its sweet gas wells in the West Panhandle Field and other wells to which it is connected, for any purpose, including the stripping for gasoline. It restrains the commission from interfering with the company's production in this respect and also forbids it to refuse to issue tenders so that the gasoline thus produced may be moved.

Restrain Commission Orders

AUSTIN, Tex., Oct. 8.—Federal court injunctions restraining the Railroad Commission from enforcing natural gas conservation orders against Texas Panhandle Gas Co. and Texhoma Natural Gas Co. were filed in district clerk's office Friday, following hearing by a three-judge court August 30.

The ruling held that the probable effect of the commission's order would be to supply part of the companies' needs by purchases from well owners who have no market.

Austin Rate Reduced

AUSTIN, Tex., Oct. 7. — After discussions started by Austin city council, Texas Public Service Co. reduced the domestic gas rate of Austin $34,000 a year; the schedule cutting 3½ cents from the first 1,000 feet of gas; 5 cents on the next 4,000 feet, and 7½ cents on the next 20,000 feet; 10 cents on the next 25,000 feet, and 12½ cents above that. The reductions were made effective October 15.

Natural Gasoline

Warren Petroleum Co. Takes Over All Amerada Plants

Warren Petroleum Co., through its subsidiary, the Natural Gasoline Corp., has purchased the gasoline plants, gas contracts and gas production of the Amerada Petroleum Corp. The seven plants acquired have a combined capacity of 158,000 gallons daily and are producing approximately 50,000 gallons daily. Six plants are located in Texas and one in Oklahoma. Change of ownership became effective October 1. Offices of the new company will adjoin those of the Warren Petroleum Co. in Tulsa.

M. E. MOCKLEY

M. E. Mockley, who has been general manager of Amerada's natural gasoline division for 14 years, has been elected vice president in charge of the new company's operations. Other officials of the Natural Gasoline Corp. are W. K. Warren, president; J. A. LaFortune, vice president; H. E. Felt, secretary, and A. J. Murphy, treasurer. All but one member of Mr. Mockley's staff and the entire field personnel is being taken over by the Natural Gasoline Corp. H. W. Harts will continue as Mr. Mockley's assistant, and W. A. Baden of the Warren organization will also join the Natural Gasoline Corp.

By virtue of this purchase, the company acquires all of the casinghead gas rights of Amerada's new production in the Monument Field, Lea County, New Mexico, and is now taking casinghead contracts from other operators in that field, and will proceed immediately toward the erection of a natural gasoline plant there.

For the past six years the Warren Petroleum Co. has handled the sales of the natural gasoline production for the Amerada Petroleum Corp., and will continue to do so for the new owners.

Production of Natural Gasoline Increased in California

Natural gasoline production in California during the month of August recorded a daily average of 2,000 bbls. over that of July, according to the Bureau of Mines report, the August daily average being 34,000 bbls., compared with 32,000 bbls. in July. Refinery utilization increased 1,000 bbls. daily to 33,000 bbls. daily. Shipments decreased 4,000 bbls. daily to a daily average of 1,000 bbls. after having advanced from 2,000 bbls. daily in June to 5,000 bbls. daily in July. Stocks decreased 3,549 bbls. daily, or a total of 110,000 bbls., and at the end of the month were 2,132,000 bbls. This is a decrease of 557,000 bbls. under August 31, 1934, stocks. There were 89 plants in operation during the month with a daily capacity of 2,042,000,000 cubic feet.

Daily average production of liquefied petroleum gases decreased from 1,291 bbls. to 1,182 bbls. in August, 249 bbls. of which was produced at refineries. Daily average sales decreased from 1,277 bbls. in July to 919 bbls. in August.

Still gas production during August amounted to 1,741,490,000 cubic feet, equivalent on a B.t.u. basis to 414,518 bbls. of fuel oil.

NATURAL GASOLINE PLANT OPERATIONS, AUGUST, 1935

Field—	Gas treated (thou. cu. ft.)	Natural gasoline produced (gals.)
San Joaquin Valley:		
Elk Hills	74,419	124,698
Kettleman Hills	9,404,332	11,783,432
Midway-Sunset	1,250,321	2,582,844
Mountain View	1,328,071	919,979
Miscellaneous	428,326	652,380
Coastal Region:		
Elwood	225,396	513,104
Rincon	83,873	112,966
Santa Maria	135,754	346,219
Ventura Avenue	2,929,250	3,753,025
Miscellaneous	281,125	284,732
Los Angeles Basin:		
Coyote	475,483	840,210
Dominguez	962,603	1,552,004
Huntington Beach	2,239,136	3,754,147
Inglewood	221,753	342,669
Long Beach	2,394,201	7,503,641
Playa Del Rey	729,921	1,475,664
Richfield	408,209	751,300
Rosecrans	535,667	754,324
Santa Fe Springs	2,781,224	4,893,744
Seal Beach	472,833	572,172
Torrance	108,294	229,378
Miscellaneous	266,289	844,668
Total (all fields)	27,736,480	44,598,810

NATURAL GASOLINE INCLUDING LIQUEFIED PETROLEUM GAS

Supply—	Daily av. bbls. August	Daily av. bbls. July
Total production	35,187	32,912
Stock transfer (deliveries) receipts —net	(1,087)	(557)
Total	34,100	32,355
Deduct refinery requirements:		
Runs to stills	2,279	1,962
Blended	30,300	29,990
Total	32,579	31,952
Add refinery output:		
Straightrun	0	0
Natural gasoline—net	249	244
Net current supply	1,770	647
Demand:		
Domestic demand inc. bunkers	1,804	1,632
Shipments to Alaska and Hawaii	5	13
Rail and truck shipments to U. S. points outside Pacific Coast territory	16	5
Demand in dom. market area.	1,825	1,650
Shipments:		
Pacific foreign inc. Canal Zone.	399	1,768
Atlantic foreign	133	3,570
Total market demand	2,357	6,988
Losses (gains) unaccounted for—net	2,962	2,948
Total current demand	5,319	9,936
Surplus or (deficit)	(3,549)	(9,289)

Refinery Work

Start on Lakeland Refinery

MUSKEGON, Mich., Oct. 7.—The Lakeland Refinery Co., organized some time ago to build a new independent plant at Lansing, Mich., is expected to start construction of the 1,000-bbl. unit this month on a 10-acre site east of the capital city limits.

Standard Plans Construction

Standard Oil Co. of California has announced plans for construction of a new steam power plant at its Richmond (near San Francisco) California refinery, the largest of its plants with crude capacity of 100,000 bbls. daily. A contract for design and construction of the new plant has been awarded to Stone & Webster Engineering Corp. The plans call for an expenditure of approximately $1,300,000.

Oil News from Foreign Lands

CAR REGISTRATION

A recent report of the Society of Motor Manufacturers and Traders entitled "The Motor Industry of Great Britain, 1935" and published in Petroleum Times shows the following car registration in the principal countries outside the United States:

Europe—	Private cars and taxis	Trucks and buses	Total
France	1,415,173	458,121	1,873,294
United Kingdom	1,333,590	537,716	1,871,306
Germany	595,844	180,350	776,194
Italy	265,847	105,049	370,896
Russia	33,500	146,500	180,000
Spain	122,500	45,200	167,700
Belgium	97,500	57,500	155,000
Sweden	102,145	44,680	146,825
Netherlands	92,130	52,120	144,250
Denmark	87,844	37,709	125,553
Czecho-Slovakia	83,620	33,032	116,652
Switzerland	66,310	21,707	88,017
Norway	31,928	26,615	58,543
Austria	23,953	27,045	50,998
Irish Free State	25,497	12,878	48,375
Rumania	23,950	9,500	33,450
Finland	18,941	12,382	31,323
Portugal	22,525	7,910	30,435
Poland	18,334	6,487	24,821
Greece	9,420	6,650	16,070
Hungary	10,780	4,170	14,950
Yugo-Slavia and Albania	7,661	4,184	11,845
Channel Islands	.....	.....	8,040
Turkey	3,350	4,000	7,350
Latvia	2,010	1,809	3,819
Estonia	1,780	1,444	3,224
Danzig	1,919	835	2,754
Bulgaria	1,102	979	2,081
Lithuania	1,256	618	1,874

ETHIOPIA

Francis W. Rickett, who negotiated an oil concession covering approximately half of Ethiopia, returned to London, England, last week, and in an announcement said that he expected to make the necessary arrangements to carry out the terms of the grant. The African Development & Exploration Co., controlled by the Standard-Vacuum Oil Co., for whom Rickett originally negotiated the concession with the government of Ethiopia, gave notification of cancellation early in the month after a conference with the State Department of the United States.

The statement in London by Mr. Rickett indicates that he has authority from the Ethiopian government to negotiate with other interests to take over the concession. He expects to visit New York in the near future. He denied that the concession would be sold to Italy.

FRANCE

Eleven companies operating 13 refineries in France have been notified by the French government of reductions in their allocations covering distribution in France for the six-month period starting October 1 and ending March 31, 1936. The reductions are: Gasoline and lubricating oil 10 per cent and kerosene 12 per cent. An increase of 10 per cent in gas oil has been granted. It is understood that the decreases were made in line with the probable domestic requirements over the next half year. It is said that the consumption of both gasoline and kerosene so far this year has been running behind 1934.

The reductions will be reflected in the quantity of crude oil which the companies can import for refining purposes. Over the past few months most of the construction programs at French refineries have been completed. All but two or three of the plants have been built over the past four years under a program sponsored by the French government which sought to build up a refining industry sufficient to take care of domestic requirements coupled with large storage programs as a guarantee of supplies in time of national emergency.

The new allocation of products for these companies total 2,702,300 metric tons for the next six months. This would indicate crude runs to stills of approximately 110,000 bbls. daily to supply these requirements. The allocations are divided as follows: Gasoline, 1,826,850 tons; kerosene, 219,385 tons; lubricating oil, 349,000 tons, and gas oil, 306,625 tons. The allocations by companies for the six months covering all products are as follows (data in metric tons):

	Allocation
Compagnia Francaise de Raffinage	507,466
Standard Franco-Americaine (American Group)	548,450
Sx Petroles Jupiter	408,760
Generale des Huiles	243,120
Chimiques et Raffineries de Berre	211,950
Vacuum Cie Industrielle	202,040
Petroles du Nord	159,260
Petrole de la Gironde	155,240
Brest Port Petrolier	113,030
Pechelbronn	104,240
Consommateurs de Petrole	48,644

Test of Anglo-Ecuadorian Oil Fields, Ltd., in the Ecuador Field

IRAN

Crude oil production in Iran (Persia) for the month of August totaled 662,000 tons, an increase over the 607,000-ton total for July but less than the 698,066 tons for August, 1934. For the first eight months of 1935 crude oil production in Iran totaled 4,928,000 tons. For the same period in 1934 the production was 5,061,703 tons.

VENEZUELA

Production of the Shell companies in Venezuela according to the latest available reports was as follows: (data in barrels)

	Four weeks ending— Aug. 31	Aug. 3
Caribbean Petroleum Co., Ltd.:		
Mene Grande	1,175,000	1,141,600
Venezuelan Oil Concessions, Ltd.:		
La Rosa	768,700	769,800
Lagunillas	2,047,400	2,058,700
Concepcion	111,000	111,100
La Paz	11,300	12,000
Total	2,928,400	2,951,600
Colon Oil Corp. (August 30)	382,100	*381,800

* August 2.

Crude oil production in Germany for the first seven months of 1935 averaged 8,492 bbls. daily. For the same period in 1934 the production daily average was 5,330 bbls.

COLOMBIA-PERU

Production of the International Petroleum Co., Ltd. in Peru and Tropical Oil Co. in Colombia for August and previous months was as follows (data in barrels):

	1935	1934
COLOMBIA—		
August	1,567,307	1,691,314
August (daily)	50,558	54,558
July (daily)	52,872	53,130
First eight months	11,831,180	10,788,953
First eight months (daily)	48,687	44,400
PERU—		
August	1,272,038	1,300,251
August (daily)	41,033	41,943
July (daily)	41,171	38,800
First eight months	9,803,580	9,150,431
First eight months (daily)	40,343	37,654

The No. 3 Petrolea of the Colombian Petroleum Co., located on the Barco concession in Colombia, has been plugged back to 950 feet. Drilling will be resumed with the expectation of testing out an oil showing around 1,300 feet. This test, which is considered of special importance in indicating the oil possibilities of that section of the Barco, was drilled to 1,329 feet, where an oil showing was obtained with heavy gas pressure. Water trouble developed and it was impossible to shut it off to determine whether or not commercial crude production was obtainable.

This is the first test to be drilled on the south dome of the Petrolea structure of the Tarra anticline. Additional tests of the structure will await the completion of the No. 3 test. On the north dome, No. 8 Petrolea has been drilled to 200 feet and casing cemented. This test is about 1 mile northwest of the No. 2, which was completed in May, 1934, as the first commercial producer of the Barco. The No. 10 adjoins a tank farm of three 55,000-bbl. tanks which were built by the Colombian company to provide storage facilities in testing wells.

In the north part of the concession there are no new developments in the No. 2 Oro, the first test to be drilled in that section by the Colombian company. It is now drilling at 3,450 feet. Oil showings have been obtained at various depths, with little or no gas pressure.

The company is completing a road to a site about 1 mile west of the No. 2 Oro, where the No. 3 Oro will be drilled. No date has been set for the spudding in of this test. It is understood that tests of showings indicated in the No. 2 Oro will be made in drilling the No. 3 Oro.

ITALY

Complete data regarding imports of petroleum products into Italy this year are not available. Available reports which cover only the first six months indicate that import shipments are running 15 to 20 per cent ahead of last year. Most of this increase is coming from Rumania. It is possible that this relative situation has changed over the past 60 days, with increased purchases from other countries.

The only complete information covers 1934 and 1933 imports. This information is summarized in the following table:

	1934	1933
Crude oil, bbls.	1,001,000	946,000
Gasoline, bbls.	2,959,000	2,472,000
Kerosene, bbls.	1,166,000	1,064,000
Fuel oil, bbls.	7,476,000	7,197,000
Lubricating oil, bbls.	460,000	468,000
Wax, pounds	57,520,000	58,819,000
Petrolatum, pounds	784,000	764,000
Asphalt, tons	797,958	687,441

The imports in 1934 amounted to approximately 40,000 bbls. daily. If the reported increases for this year prove true the imports are averaging around 50,000 bbls. daily.

Italy is accustomed to buy its petroleum products from several countries. Exclusive of wax, petrolatum and asphalt the imports in 1934 came from the following countries (data in barrels): Rumania, 4,402,000; U.S.S.R., 2,900,000; United States, 1,350,000; Iran, 1,703,000; France, 482,000; Netherlands West Indies, 191,000; Netherland India, 322,000; Venezuela, 175,000. The remainder was divided among several countries. The United States in 1934 supplied the bulk of the lubricating oil and wax.

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the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Warning for Winter

The oil industry should try a new policy this winter by resolving not to increase stocks of crude or gasoline during that period.

The days when it was thought proper to stock up during the winter in preparation for the period of peak demand have long passed out of the picture. For years it has been the other way around. The danger has been not in any possible difficulty in meeting demand but accumulating so much it would overhang the market.

There are sufficient stocks on hand for any conceivable emergency. Proration, orderly development and engineering knowledge now permit the industry to gauge fairly accurately our known reserves and the ability of the fields to produce.

Aboveground storage beyond actual requirement is costly and wasteful. Technical and engineering progress have proved the availability and advantage of underground storage in proved areas.

The refining capacity of the country has been, for several years, large enough to provide for current maximum consumption by current operations so that it is no longer necessary to pile up burdensome stocks of motor fuel during the winter months.

There is, therefore, no possible need for excuse for accumulating more stocks, either of crude or gasoline. Normal operations taking care of current demand will be found healthier for the industry in every branch.

An oversupply of crude tempts the refiner to increase his runs and the net result is to depress the market for gasoline and then for crude.

Keeping stocks within manageable proportions, on the other hand, insures sound conditions, stabilization of operations in field, plant and market, and provides a buffer against flush production from any newly discovered field in any section.

These facts are so evident they should not need to be restated but the recurrence, winter after winter, of unnecessary additions to stocks suggests emphasizing them at the opening of another season.

Resentment Needed

The tendency towards restrictive legislation hedging individuals and business grows so rapidly that it requires the constant scrutiny of such a body as the American Petroleum Industries Committee to keep tab on developments.

Director Baird H. Markham's warning, addressed to representatives of 11 midwestern states, that port-of-entry legislation, already effective in four states, had been attempted in 14 other states during recent legislative sessions and would undoubtedly be followed by wholesale efforts to restrict motor traffic when the legislatures again convene is a case in point.

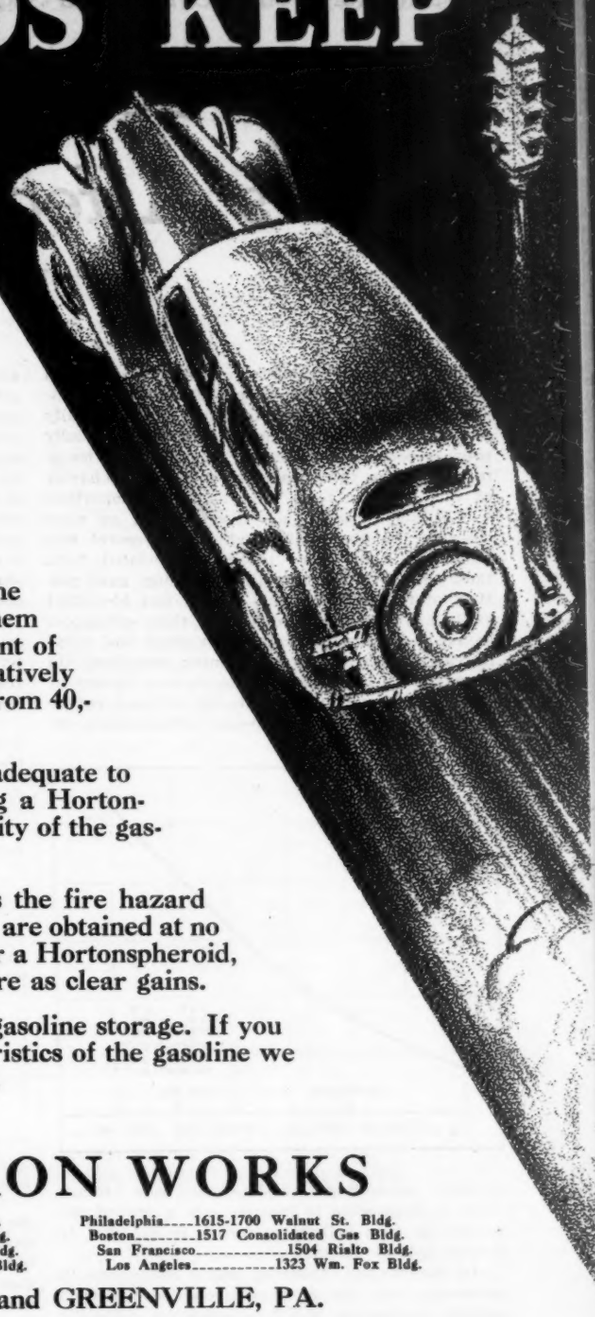
If state boundaries are to be as vexatious to cross as foreign frontiers in Europe the American motorist accustomed to freedom to come and go across his country will find the experience galling.

Perhaps the arousing of just such resentment is what is needed to focus public attention upon the whole gasoline taxation system and the need for revising it on some form of uniformity.

With an agreement among the states upon a uniform tax there would be no inducement to evaders to bootleg gasoline across state lines and no excuse for ports of entry. The other inspection functions assigned to such ports of entry belong properly and naturally to the ordinary police power, as Mr. Markham pointed out, and have no necessity, being merely irritating and time wasting regimentation of law abiding motorists.

The only consolation may be that when it is carried too far public indignation will provide the remedy.

HORTONSPHEROIDS KEEP THE "GO" IN YOUR GASOLINE



WHEN gasoline is withdrawn from marketing tanks it oftentimes has very different properties than it had when it was put in storage. Careful checks have repeatedly shown that gasoline stored in an ordinary cone roof tank loses approximately one pound per square inch of vapor pressure every three months. This loss reduces the anti-knock rating and makes it a slower starting fuel.

Anti-knock and quick starting qualities in gasoline are so important to the consumer and cost so much to produce that obviously no one wants to lose them through evaporation. This has, now, been made unnecessary by the development of the new low-pressure Hortonspheroid which provides economical storage in relatively large units. A number of installations have been made with capacities ranging from 40,000 to 80,000 bbls. and larger sizes can be furnished.

For most climatic conditions an internal pressure of 2½ lbs. per sq. in. is adequate to stop practically all evaporation loss from ordinary motor fuel. By equipping a Hortonspheroid with a recording gauge, a continuous and positive check on the quality of the gasoline in storage can be kept.

In addition to stopping evaporation loss, the Hortonspheroid reduces the fire hazard by preventing the escape of vapor to the atmosphere. These advantages are obtained at no extra cost for the volumetric saving in evaporation will quickly pay for a Hortonspheroid, leaving the quality of the gasoline and the greater security against fire as clear gains.

Ask our nearest office for estimates on Hortonspheroids for gasoline storage. If you will give us the desired capacity, climatic conditions and characteristics of the gasoline we will quote on the proper design and pressure to suit your needs.

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Sulfur Compounds Present in Motor Fuels Affect Lead Responsiveness

By W. A. SCHULZE and A. E. BUELL
Petroleum Engineering Research Co.,
Phillips Petroleum Co.

Research curiosity was aroused several years ago by a sample of straightrun gasoline which was found to have an abnormally low original octane number and an unusually poor response to tetraethyl lead. In an attempt to account for the apparently anomalous behavior of this gasoline, tests were made for impurities which might cause such discrepancies as were observed. An abnormally high sulfur content was found while no other properties deviated from those observed in normally behaving gasolines. Most of the sulfur in this sample was identified as the methyl and ethyl disulfides, these substances having been formed from the methyl and ethyl mercaptans during the sweetening operation. On investigating the effect of the various classes of sulfur compounds upon both the original octane number and the "lead response" of gasolines, extremely interesting relationships were found. Since it is possible to include only a few of the results in this article, attention is directed to certain typical examples.

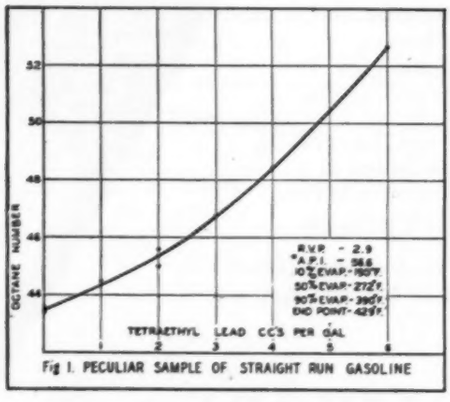


Fig 1. PECULIAR SAMPLE OF STRAIGHT RUN GASOLINE

Of the various classes of sulfur compounds in petroleum oils, the most common are hydrogen sulfide, elementary sulfur, mercaptans, aliphatic and aromatic sulfides and disulfides, and cyclic sulfur compounds such as the thiophenes and the "thiophanes." Occasionally there may also be found alkyl polysulfides, resulting from certain sweetening processes, and in benzol gasolines carbon disulfide may be present. Also, there may be traces of sulfones, sulfoxides and the like. We are interested primarily, however, in those common non-corrosive compounds which remain in the finished gasolines, namely the sulfids, disulfides and cyclic sulfur compounds.

For the study of the effect of these sulfur compounds upon the original octane number and lead response, they were blended with a reference fuel having an extremely low sulfur content. The properties of this reference fuel are given in Table 1.

Most of the sulfur compounds were obtained from Eastman Kodak Co. and, in order to conserve time, were used without further purification. Since weighed amounts of these compounds were added to the reference fuel and the sulfur content calculated on the basis of 100 per cent purity, it is realized that in several instances the values shown for the sulfur content may be slightly high. In such cases, however, this means merely that the effect of the sulfur on the lead susceptibility is even greater than that shown.

The behavior of certain members of each of the various classes of sulfur compounds is shown graphically in Figure 2, where octane number is plotted against total per cent sulfur. In order to compare the various compounds with respect to their deleterious action on tetraethyl lead, the octane numbers of the blends of sulfur compounds in reference fuel were determined for the 0, 1, 2, 3, 4 and 6 cc. per gallon concentrations of tetraethyl lead. Figure 2 shows the 1 cc. concentrations, but for any concentration of tetraethyl lead between 0.5 and 6.0 cc. per gallon the relationship does not differ greatly from that shown for the 1.0 cc. point.

The shaded portions of this figure are meant to represent the areas, as nearly as can be determined from the available data, wherein all sulfides and disulfides commonly found in motor fuels are likely to fall.

It is noted that of all of those compounds mentioned the disulfides, with the exception of carbon disulfide, exhibit the most deleterious effects,

TABLE 1.—PROPERTIES OF REFERENCE FUEL

(Before adding sulfur compounds)

Sulfur content, per cent	0.005
A.S.T.M. octane number:	
0 cc. T.E.L.	51.0
1 cc. T.E.L.	63.5
2 cc. T.E.L.	70.7
3 cc. T.E.L.	74.4
4 cc. T.E.L.	76.8
6 cc. T.E.L.	79.5
Reid vapor pressure	2.0
Gravity, °A.P.I.	61.7
Distillation:	
First drop	190°F.
5% evaporated	205
10% evaporated	209
20% evaporated	213
30% evaporated	217
50% evaporated	225
70% evaporated	233
90% evaporated	245
95% evaporated	250
Endpoint	308
Recovery, per cent	99.1
Residue, per cent	0.3
Loss, per cent	0.6
Unsaturates, per cent	0

the sulfides are less harmful, and thiophene, an example of cyclic sulfur, is the least objectionable. This is of especial interest since in the common refinery practice of sweetening gasoline, the mercaptan sulfur is converted to the disulfide form, the very worst type of organic sulfur. In this manner, therefore, appreciable amount of disulfide sulfur is formed in, and subsequently left in, the finished product. No attempt is made in ordinary practice to remove either the disulfides or the sulfides from gasoline since it has been generally assumed that these non-corrosive forms of sulfur can be readily and economically tolerated.

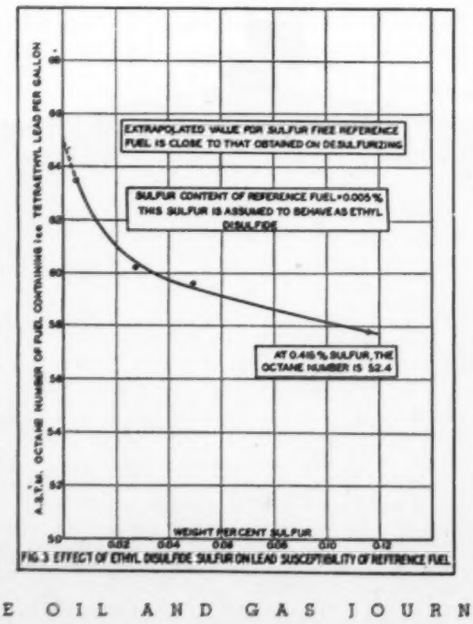

A.S.T.M. OCTANE NUMBER OF FUEL CONTAINING 1cc TETRAETHYL LEAD PER GALLON
EXTRAPOLATED VALUE FOR SULFUR FREE REFERENCE FUEL IS CLOSE TO THAT OBTAINED ON DESULFURIZING
SULFUR CONTENT OF REFERENCE FUEL = 0.005%. THIS SULFUR IS ASSUMED TO BEHAVE AS ETHYL DISULFIDE
AT 0.415% SULFUR, THE OCTANE NUMBER IS 52.4
WEIGHT PER CENT SULFUR
0.02
0.04
0.06
0.08
0.10
0.12
FIG. 3 EFFECT OF ETHYL DISULFIDE SULFUR ON LEAD SUSCEPTIBILITY OF REFERENCE FUEL

TABLE 2.—COMPARISON OF THE EFFECT OF SULFIDES AND DISULFIDES ON THE LEAD SUSCEPTIBILITY OF REFERENCE FUEL

Sulfur compound	Wt. % sulfur added	Octane number at cc. TEL/gallon 0	1	2	3	6
Reference fuel	0	51.0	63.5	70.7	74.4	79.5
Ethyl sulfide	0.407	50.8	56.5	60.8	64.2	70.7
Ethyl disulfide	0.4100	48.4	52.4	55.6	58.2	64.5
Ethyl sulfide	0.031	51.0	61.9	67.4	71.4	77.5
Ethyl disulfide*	0.031	50.5	60.1	65.5		

* Interpolated values.

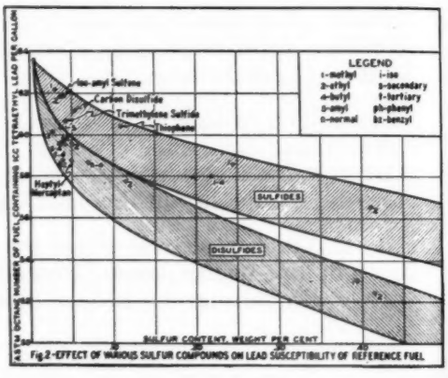


Fig.2-EFFECT OF VARIOUS SULFUR COMPOUNDS ON LEAD SUSCEPTIBILITY OF REFERENCE FUEL

The effects of similar concentrations of ethyl sulfide and ethyl disulfide are given in Table 2 where comparisons are made at both high and relatively low concentrations of sulfur.

With 0.41 per cent of ethyl disulfide sulfur, the octane number of the unleaded reference fuel was reduced from 51.0 to 48.4 whereas an equivalent quantity of ethyl sulfide had no appreciable effect. The addition of 1 cc. per gallon of tetraethyl lead to the reference fuel gave an increase of 12.5 octane numbers while the reference fuel containing 0.41 per cent of ethyl disulfide sulfur gave an increase of only 4 octane numbers. With an equivalent quantity of ethyl sulfide the response was .7 octane numbers. Similar results are noted at higher concentrations of tetraethyl lead. Furthermore, it is noted from the lead curves that the presence of 0.41 per cent ethyl disulfide sulfur increases the amount of tetraethyl lead at the 63.5 octane level to 5.5 times and an equivalent amount of ethyl sulfide sulfur to 2.8 times that required in the original fuel. It is indeed surprising that effects of such magnitude were not noted long ago.

TABLE 3.—EFFECT OF VARIOUS SULFIDES ON THE LEAD RESPONSE OF REFERENCE FUEL

Sulfur compound	Wt. % sulfur added	Octane number at cc. TEL/gallon 0	1	2	3	6
Reference fuel	0	51.0	63.5	70.7	74.4	79.5
Methyl sulfide	0.229	51.0	58.6	63.3	66.7	73.8
iso-butyl sulfide	0.241	50.8	58.0	62.7	65.4	71.6
Methyl sulfide	0.025	50.6	62.2	67.7	71.6	78.4
Ethyl sulfide	0.031	51.0	61.9	67.4	71.4	77.8
iso-amyl sulfide	0.032	50.6	60.4	66.1	69.9	76.4

Table 3 shows the effect of the various sulfides on the lead response of the reference fuel.

It is quite evident that in the aliphatic series

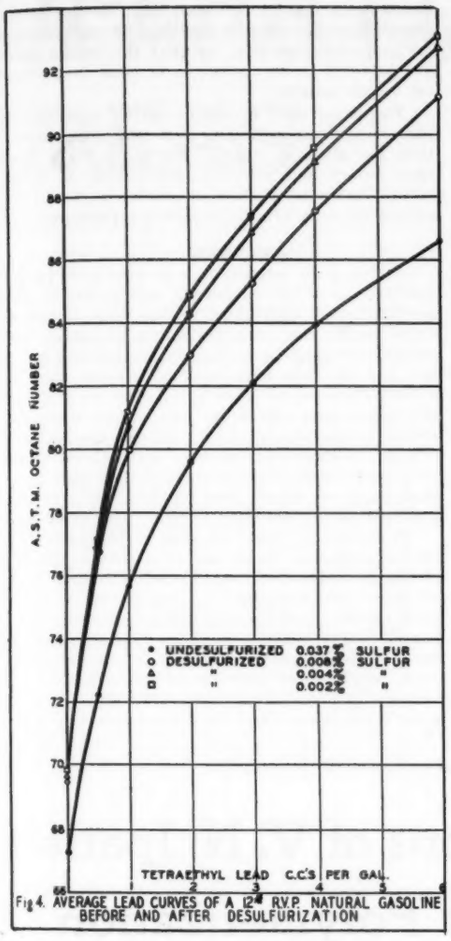


Fig 4. AVERAGE LEAD CURVES OF A 12# R.V.P. NATURAL GASOLINE BEFORE AND AFTER DESULFURIZATION

the deleterious effect increases with the size of the alkyl radical attached to the sulfur atom. Also, with the same molecular weight the branched radicals appear to have a greater effect than the normal chain, but a sufficient number of tests was not made to arrive at more than a general idea along this line. The heat stability of the various compounds is probably a good criterion, i.e. the more heat stable the compound the less its effect on the lead susceptibility of the gasoline.

In Table 4 the lead response results are given for some of the aliphatic and aromatic disulfides which are ordinarily found in gasoline.

TABLE 4.—EFFECT PRODUCED BY VARIOUS DISULFIDES ON THE LEAD RESPONSE OF REFERENCE FUEL

Sulfur compound	Wt. % sulfur added	Octane number at cc. TEL/gallon 0	1	2	3	6
Reference fuel ...	0	51.0	63.5	70.7	74.4	79.5
Methyl disulfide..	0.39	48.9	53.0	56.2	58.7	64.5
Ethyl disulfide..	0 41	48.4	52.4	55.6	58.2	64.5
Ethyl disulfide*.	0 033	50 4	59.9	65.6	69.4	75.4
n-butyl disulfide.	0.064	50.6	58.7	63.6	66 5	72.7
sec.-butyl disul..	0.028	50.3	59 6	65.3	69.5	75.3
tert.-butyl disul..	0.028	50.6	59.6	65.4	69.1	75.6
Benzyl disulfide..	0.034	49 3	58.8	64.6	68.4	76.2
Diphenyl disul...	0.036	49.9	59 6	66.1	69.8	76.6

* Interpolated values.

It is shown that within the aliphatic series the deleterious effect of the disulfide increases fairly rapidly with increasing molecular weight. Also, branching of the radical decreases the effectiveness of the lead; tertiary butyl disulfide is slightly worse than the secondary butyl and both are considerably worse than the normal butyl. The aromatic disulfides cause quite a lowering in the initial octane number, even when present in rather low concentrations. Diphenyl disulfide, and benzyl disulfide to some extent, appear to affect the lead response to a greater degree than ethyl disulfide when the lead tetraethyl is present in low concentrations but to a less degree than ethyl disulfide when as much as 6 cc. of lead is present.

In Table 5 a comparison is given between ethyl disulfide and thiophene, and between ethyl disulfide and carbon disulfide. Results are given, also, for a mixture of ethyl disulfide and thiophene.

TABLE 5.—COMPARISON OF EFFECT OF ETHYL DISULFIDE, THIOPENE AND CARBON DISULFIDE IN REFERENCE FUEL

Sulfur compound:	Wt. % sulfur added	Octane number at cc. TEL/gallon 0	1	2	3	6
Reference fuel ..	0	51.0	63.5	70.7	74.4	79.5
Ethyl disulfide..	0.11	50.3	57.8	61.7	64.2	70.7
Thiophene	0.105	51 0	60.5	66.4	69.8	76.3
Ethyl disulfide..	0.022	50.6	60.2	66.2	70.3	76.3
Ethyl disulfide..	0.023	50.6	59.0	64.8	69.1	76.2
and thiophene..	0.054					
Ethyl disulfide..	0.044	50.3	59 6	64 9	68.5	74.5
Carbon disulfide.	0.049	51.0	61.3	67.7	71.9	78.3

The effect of thiophene is much less than that of ethyl disulfide, a thiophene sulfur content of 0.105 per cent producing about the same reduction in lead response as 0.022 per cent of ethyl disulfide sulfur. In the case of a mixture of the two types of sulfur compounds, the effect appears to be more or less additive. It is interesting to note that carbon disulfide does not exhibit the extreme deleterious effects of other disulfides, behaving more like the sulfides than disulfides.

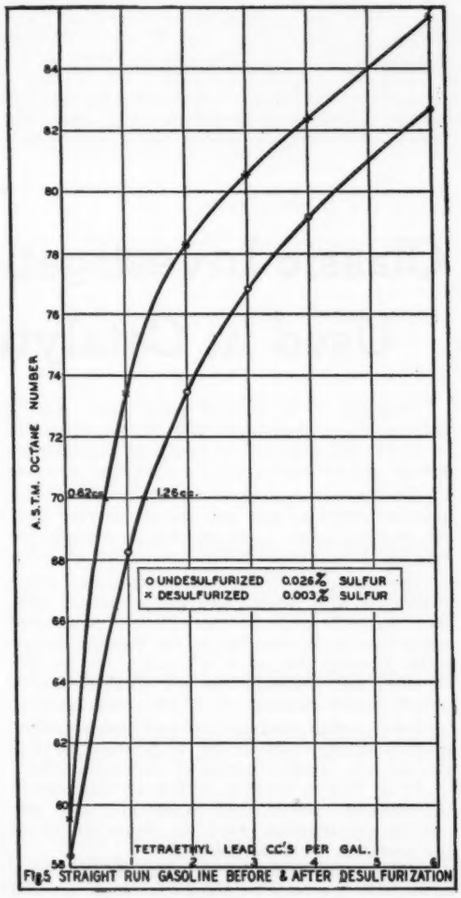


Fig 5 STRAIGHT RUN GASOLINE BEFORE & AFTER DESULFURIZATION

This may be due to the fact that it is not readily decomposed by heat.

The results for four different concentrations of ethyl disulfide sulfur are presented in Table 6.

TABLE 6.—EFFECT OF ETHYL DISULFIDE ON LEAD SUSCEPTIBILITY OF REFERENCE FUEL

Sulfur compound added	Wt.% sulfur	Octane number at cc. TEL/Gallon 0	1	2	3	6
0	0	51.0	63.5	70.7	74.4	79.5
Ethyl disulfide..	0.022	50.6	60.2	66.2	70.3	76.3
Ethyl disulfide..	0 044	50.3	59.6	64.9	68.5	74.5
Ethyl disulfide..	0.111	50.3	57.8	61.7	64.2	70.7
Ethyl disulfide..	0.410	48.4	52.4	55.6	58.2	64.5

The total deleterious effect increases with the concentration of ethyl disulfide, but there is by no means a linear relationship between the two. This is shown in Figure 3 where the octane number of the reference fuel plus various concentrations of ethyl disulfide plus 1 cc. per gallon tetraethyl lead is plotted against total weight per cent sulfur in the blend. The curve described by the points so plotted is far from a straight line in concentrations of sulfur from 0 to 0.02 per cent. It is thus demonstrated that from a refiner's standpoint it is more profitable to remove the last 0.01 per cent of ethyl disulfide sulfur than any other equivalent amount.

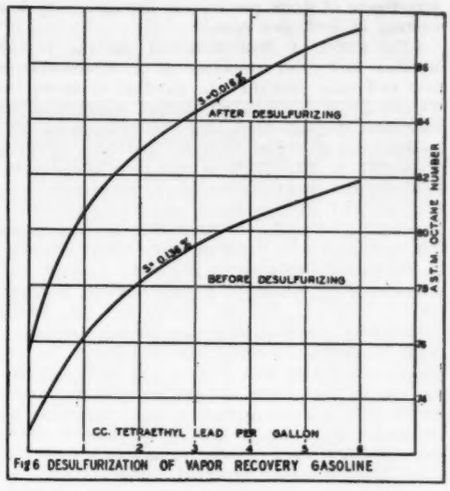


Fig 6 DESULFURIZATION OF VAPOR RECOVERY GASOLINE

Desulfurized Gasoline

It has been realized for some time that gasolines from different sources vary considerably in their response to tetraethyl lead, this difference being explained heretofore on the basis of hydrocarbon composition. Now that sulfur is shown to influence the lead susceptibility to such a marked extent it becomes of particular interest to note the lead response of certain of these gasolines both before and after desulfurization.

In Figure 4 are shown the average lead curves of a large number of samples of a representative 12-pound Reid vapor pressure natural gasoline, which contained only 0.037 per cent sulfur prior to desulfurization. It is noted that the initial octane number of the desulfurized product is about two octane numbers higher than of the undesulfurized and that 1 cc. of tetraethyl lead raises the octane number of the desulfurized sample to over 81 as compared with 75.6 on the undesulfurized. Furthermore, 1 cc. of tetraethyl lead in the desulfurized gasoline gives a fuel of the same octane number as 2.68 cc. of lead in the undesulfurized. Special attention is directed, also, to the improvement obtained in the higher octane brackets by reducing the sulfur content from the

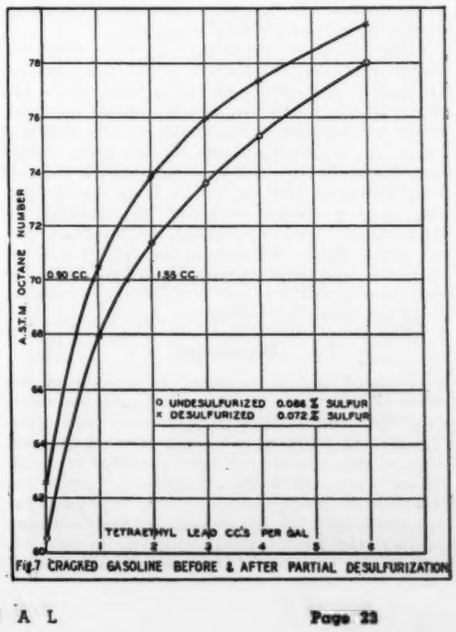


Fig.7 CRACKED GASOLINE BEFORE & AFTER PARTIAL DESULFURIZATION

low figure of 0.008 per cent to the extremely low content of 0.002 per cent.

The effect of desulfurization on the octane number and lead response of a representative low end-point straight run gasoline is shown in Figure 5. It is to be noted that desulfurization increased the unleaded octane number from 58.3 to 59.5 and the octane number with 1.0 cc. TEL from 68.3 to 73.5. This represents a substantial improvement in TEL response. At 70 octane number the TEL savings attributable to desulfurization amounted to 51 per cent. Although the gasoline contained only 0.026 per cent sulfur originally, the removal of most of this small amount was responsible for considerable improvement in quality.

Refinery vapor recovery gasoline furnishes another interesting example. Figure 6 shows the octane number and lead response of such a gasoline before and after desulfurization. It is observed that a great reduction has been made in the lead requirement to any given octane number, the reduction being greater than for any of the other gasolines here reported. This is due, at least in part, to the high sulfur content (0.136 per cent). There is a tendency in usual refinery

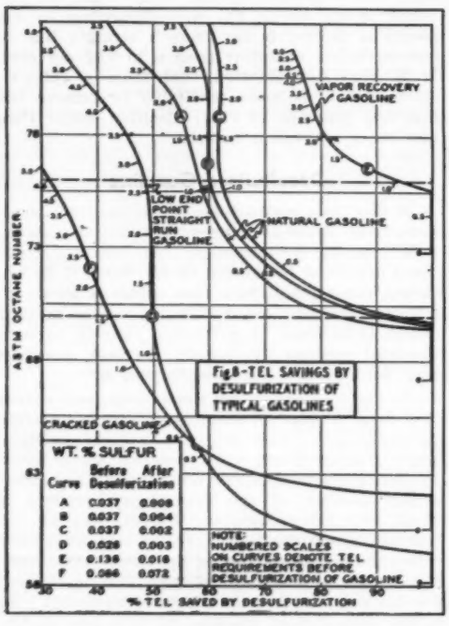


Fig 8—TEL SAVINGS BY DESULFURIZATION OF TYPICAL GASOLINES

operations for the lower boiling sulfur compounds, always present to a far greater extent than the higher boiling compounds, to be concentrated in the vapor recovery gasoline. It is therefore particularly interesting to observe the decided improvement which can be accomplished by desulfurization of vapor recovery gasoline.

Figure 7 shows the effect of partial desulfurization of a gasoline formed by cracking gas oil. In such a gasoline a large proportion of the sulfur exists as cyclic compounds, which as shown above is the least objectionable of the different kinds. In this example only the non-cyclic sulfur was removed; the sulfur content being reduced from 0.086 per cent to 0.072. It is noted, however, that a marked reduction was obtained in the tetraethyl lead requirement. At 70 octane number only 0.90 cc. was needed as against 1.55 cc. on the sample prior to desulfurization. Thus, the lead requirement was reduced 0.65 cc. per gallon, or 42 per cent.

Discussion

Refiners may be intrested in general in the effect of the various sulfur compounds on tetraethyl lead, but to them it is of more importance to know the effect of the sulfur now in the gasoline on the amount of lead required to reach certain octane standards. Therefore, Figure 8 has been plotted to emphasize the tetraethyl lead savings resulting from the desulfurization treatment accorded the four typical gasolines already described. The per cent of the present lead requirement which can be saved by desulfurization may be read directly from these curves. It is noted that the per cent saving decreases, as expected, with an increase in octane number, 30 per cent being the lowest saving shown on the plot. Although the per cent saving decreases, the total amount of lead saved increases rapidly with an increase in octane number.

Many blends of undesulfurized and desulfurized gasolines have been made with other undesulfurized and desulfurized gasolines in order to check blending relationships. Tests on these blends have proven that the effect shown on any component of a blend will be fully transmitted to the blend.

Complete laboratory tests were made on these gasolines. In this and similar work it was found necessary to develop analytical methods of much greater accuracy than are currently available. The sulfur content was determined with much precision by a modified method which will be published soon. In the determination of the octane numbers much care was exercised in manipulation and repeated checking, so that the values given are believed to be correct to a small fraction of an octane number.

TABLE 7.—PROPERTIES OF GASOLINES BEFORE AND AFTER DESULFURIZATION

	Natural gasoline		Low endpoint straight run		Vapor recovery		Cracked	
	Bef.	After	Bef.	After	Bef.	After	Bef.	After
Reid vapor pressure	12.2	12.3	7.8	7.9	14.5	14.2	11.8	11.5
°A.P.I.	80.8	80.7	66.0	65.8	78.3	77.8	57.7	57.5
Distillation:								
Initial °F.	94	92	97	97	84	85	90	91
10% evap.	104	103	153	153	99	100	137	135
50% evap.	124	122	209	210	130	132	268	262
90% evap	208	206	259	262	209	210	382	381
95% evap.	...	...	...	...	233	236	400	402
Endpoint	337	336	324	321	...	...	...	...
Residue, %	0.5	0.5	0.5	0.5	0.2	0.5	0.6	0.7

The usual tests of the properties of gasolines, that is the vapor pressure, gravity and distillation, are given in Table 7 for each of the gasolines before and after desulfurization. It is observed that none of these properties were affected during the removal of the sulfur compounds.

Conclusion

As has been remarked, it is indeed surprising that effects of the magnitude here recorded were not discovered heretofore. It has been contended unanimously that desulfurization of motor fuel places a tremendous burden on the refining industry. Yet the data here reported indicate that desulfurization brings about substantial savings once the deleterious effects of the easily removable sulfur compounds on lead response are properly evaluated. Expressed another way, if all motor fuels were moderately desulfurized, octane numbers could be raised three or four units universally with no greater cost for lead than at present.

The discovery and evaluation of the deleterious effects of sulfur compounds on the lead response of motor fuels should result in a renewed interest in old and new processes which remove sulfur from gasoline economically and conveniently. Also, this discovery will no doubt lead to a considerable revision of ideas pertaining to the most efficient combinations of cracking and reforming operations and thus may indirectly result in even greater economies than have been here indicated.

Classic Investigations of V. N. Ipatieff Used in Catalytic Polymerization

Professor V. N. Ipatieff, upon whose work a large share of petroleum catalytic polymerization is based, has been an authority on catalytic pyrelysis and polymerization for more than 30 years.

Dr. Ipatieff is famous for his work on high pressure reactions and was one of the very earliest workers in the hydrogenation of organic substances.

His first work in petroleum chemistry which gained for him general recognition came in 1905. This was the preparation of ethylene from ethyl alcohol in the laboratories of the Russian government. Through the use of a catalyst, he was able to effect and control a reaction requiring but 60 pounds vessel pressure at 662°F. temperature.

Prior to this work he had perfected a method of dehydrating ethyl alcohol to produce ethylene through the catalytic action of aluminum oxide.

From 1914 to 1917, he served as chairman of the chemical committee of Russia and as a general in the Imperial Army in charge of all of the country's chemical industries.

During this period he utilized his knowledge of ethylene synthesis to prepare mustard gas and other poison gases for war purposes.

Dr. Ipatieff received the degree of Doctor of Chemistry from the University of St. Petersburg, and in the same year honorary degrees of Doctor of Chemistry from the universities of Munich and Strasburg in Germany. From 1906 to 1915, he held a professorship at the University of St. Petersburg, now Leningrad. France honored him with the award of the Berthelot Medal, a citation given only to six men. He also was made a member of the French Legion of Honor.

Besides his position as an associate director of research of the Universal Oil Products Co., Dr. Ipatieff also holds a professorship in chemistry at Northwestern University, Chicago.

Dr. Ipatieff met Dr. Gustav Egloff, director of research of Universal, during the World Petroleum Congress, held in Berlin in 1930, and shortly afterwards came to the United States.

Dr. Ipatieff is a member of the Academy of Science of St. Petersburg, the American Chemical Society, the German Chemical Society of Berlin, the Academy of Science in Goettingen, Germany,

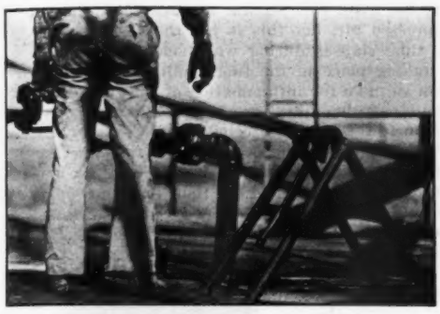
DR. V. N. IPATIEFF

and the Chicago Chemists Club. He is the author of several text books on organic chemistry and has written over 200 articles on high pressure catalytic reactions.

OPERATING IDEAS

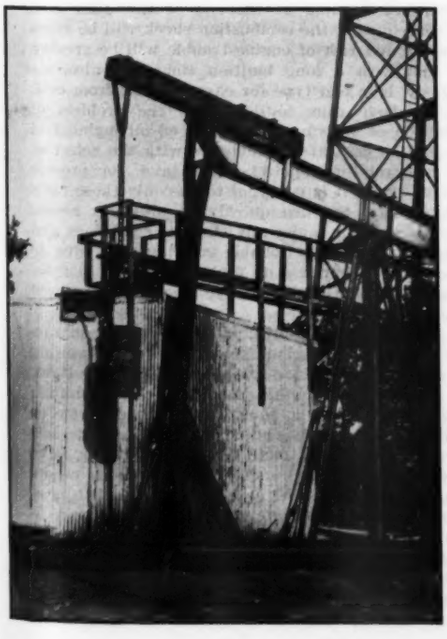
Convenient Wrench Rack

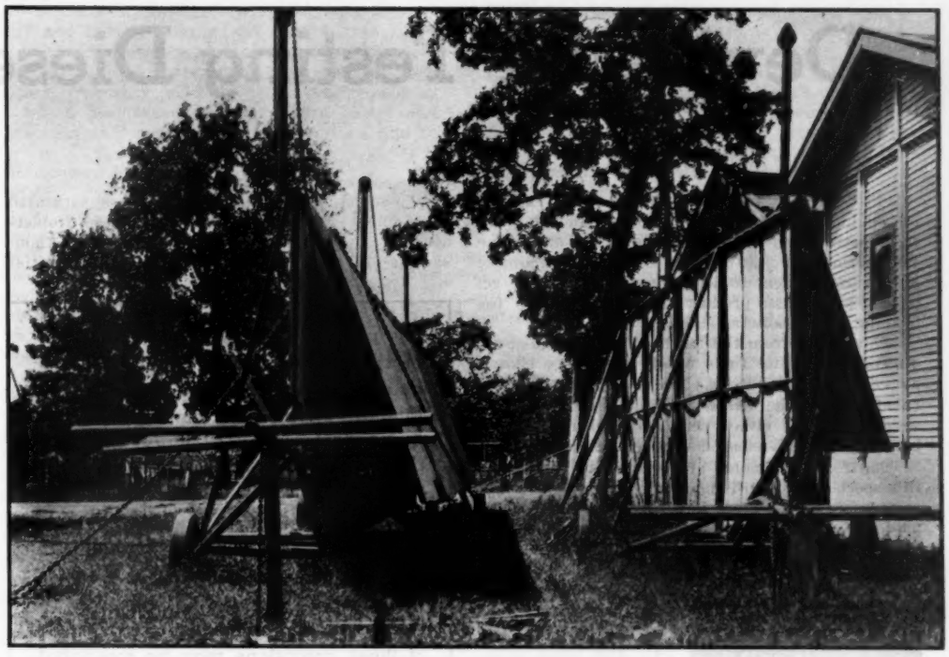
The accompanying picture shows a rack for rod wrenches used when pulling or running sucker rods. This simple device was made in the company's own shop and used by a major oil company operating near Chase, Kansas. The rack permits the wrenches to be at the finger tips of the floor men while not in use. The rack promotes safety.



Adjustable Chain

This homemade counterbalance is suspended from a pony beam by means of old discarded rotary or calf wheel chain. The pony beam is of 8-inch by 8-inch timber and is securely fastened to the walking beam by large U-bolts. This counterbalance is constructed by filling an old oil drum with concrete. As some means of connecting the lifting medium to the counterbalance is needed two large diameter bolts are put into the concrete with large eyes extending above the top of the weight. Two sucker rod reins are then fastened to the anchored eyes and reach to two or three feet above the weight.



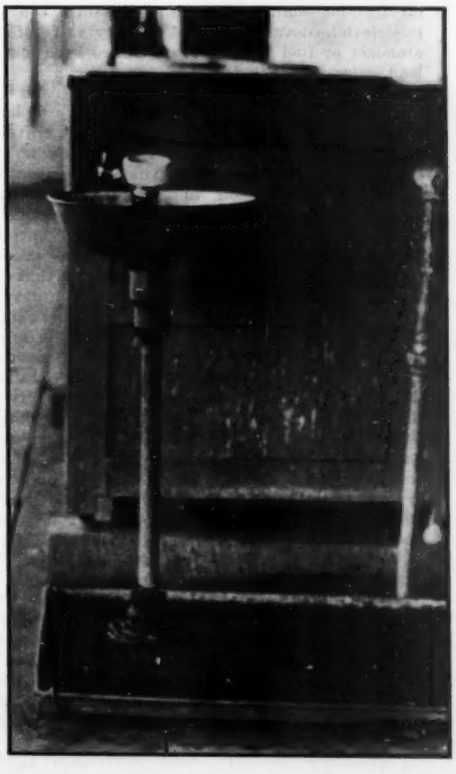


Portable Fire Guard for Field Service

In the Seminole Field, Oklahoma, there are a number of fire guards such as shown in the accompanying picture erected for hauling to the vicinity of a fire and placing in a position to serve as a screen or shield against the flames. These portable guards are mounted upon small iron wheels and consist of a pipe frame covered with galvanized sheet iron. To facilitate handling, the upper portion of the shield is hinged and connected to chains passed over uprights at each end and in the middle of the frame so the lower portion can be pulled up into a vertical position when the guard has been wheeled near the fire. The fire guards can be hauled along the roads to the vicinity of the fire behind trucks, but when the scene of the fire is reached it is necessary for men to place the guards into position.

Low Cost Drinking Fountain

Cool drinking water is as much appreciated in the oil fields as elsewhere, but there are times when it is hard to convince the management standard cooling fountains are justified for field offices and warehouses. It is then up to the men to use their ingenuity to make some kind of a cooling device from the materials at hand. That is just what the men did at the warehouse where the accompanying picture was taken. They rustled an old ice box and fitted it with a three-quarter inch pipe coil in the bottom on which the ice rests and through which the water is piped. A drinking cup with valve was secured and attached to the upper end of the pipe. So far so good, but it was now necessary to provide some kind of a basin for the overflow from the drinking fountain. This was made out of a discarded electric light reflector inverted and fitted with a piece of 1¼-inch pipe that terminated in a flange, forming a floor stand. The lower flange is not bolted to the sheet iron tray leading to the discharge pipe and can be moved to any desired position or taken out to permit cleaning the drain tray.



Cathode Ray Tube Used as Indicating Device for Testing Diesel Fuel Oils

It is often thought that fuel for oil engines may be any sort of product heavier than petrol, and that the demand for oil engine fuel permits of the disposal of a large quantity of material which would otherwise have to be regarded as a waste product or as suitable only for burning under boilers.

This is far from the truth. Modern high-speed oil engines require fuels which have to be chosen as carefully as petrols, and which have to be submitted to the same rigorous laboratory and service tests as either petrols or lubricating oils before they are released for general use.

The following notes are written to show why this special selection is necessary and also to illustrate some of the more important tests which are made in engines to determine fuel characteristics.

During the compression stroke of an oil engine the air charge is compressed to about 500 pounds per square inch, causing its temperature to rise to about 500° C., the temperature of iron at a dull red heat. This heat of compression, together with the increased density of the air, is sufficient to start the ignition of the fuel which is injected into the combustion space in the form of a spray commencing just before the piston reaches the end of the compression stroke.

Fig. 2.—Showing pressure changes

The required degree of atomization and distribution of fuel is obtained, in the majority of modern designs, by forcing the fuel under a pressure varying from 1,000 to 3,000 pounds per square inch through one or more orifices; and in order that no injection shall take place at pressures below a predetermined value the fuel delivery valve of the atomizer or fuel injector is controlled by a spring load.

To obtain a high engine efficiency from the combustion point of view, it is necessary to burn all the fuel charge before the piston has traveled far down the expansion stroke. If this is not done there will be a high exhaust temperature, bad fuel consumption and, probably, exhaust smoke. A high compression temperature alone is not sufficient to give proper rapidity of burning and means must be provided for efficient mixing of the fuel supply and the air charge so that the fuel particles from the atomizer meet the oxygen they need for combustion in a suitably short time.

The factors governing the design of the injection and air movement systems are too complicated to describe in a short space but, broadly, the necessary conditions may be met by giving the air in the cylinder a swirling or a turbulent motion so that it rapidly passes across the fuel particles as they are injected into the cylinder, and, in addition, the fuel spray may be distributed by injecting it through one or several suitably placed orifices. Many combinations of injection systems, directed air movements and combustion chamber shapes may be used with success.

It has already been mentioned that the fuel is forced at high pressure through the atomizer. The jet of oil may leave the nozzle orifice at a velocity of 300 miles per hour or more, and the high resistance of the relatively stagnant air in the cylinder tears drops off the fuel stream which spread until, only a very small fraction of a second after injection begins, there is a considerable volume of the air more or less saturated with finely divided fuel particles. These droplets are of varying sizes averaging, say, half a thousandth of an inch in diameter and their initial high velocity is quickly reduced to that of the heated compressed air itself while their temperature rapidly rises.

The problems involved in selecting the most satisfactory high-speed Diesel-engine fuel are dealt with in this article. Modern engines of this type require fuels which pass laboratory and service tests as rigorous as those for gasoline. The required degree of atomization and distribution must be obtained and in order that no injection shall take place at pressures below a predetermined value, the fuel oil feed must be accurately controlled. The effectiveness of these provisions may be measured by an electric photographic device and the procedure used in making such a test is outlined in the following article.

Pump and Atomizer

The fuel pump and atomizer for each cylinder of a modern high-speed oil engine must be designed and made to inject an accurately measured quantity of fuel at all loads and speeds within the range of the engine. At 2,000 r.p.m. the time for each injection is about one three-hundredth of a second and the volume of fuel in each injection is about one two-hundredth of a cubic inch at full load.

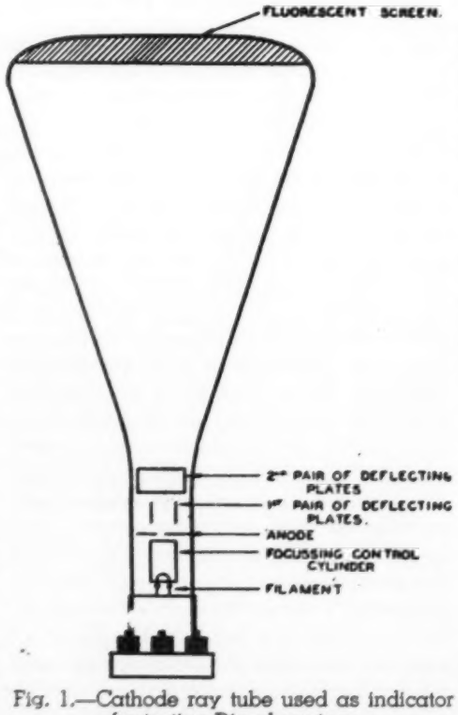


Fig. 1.—Cathode ray tube used as indicator for testing Diesel engines

This small quantity of oil is broken up by the spray valve into something of the order of 50,000,000 droplets.

It may be thought that such small particles will instantaneously ignite when they are torn from the main fuel stream as they enter the hot compressed air, but this is not the case. A definite time elapses during which chemical changes are taking place in the fuel leading up to a condition suitable for inflammation of the first drops, and, during the time for this preliminary phase, further fuel is being injected.

The time from the beginning of fuel injection to the beginning of ignition is, say, one six-hundredth of a second, and by then anything up to the total charge may be already in the cylinder depending on the nature of the fuel and, the load under which the engine operates.

Immediately the first few droplets start to burn, the inflammation is quickly spread by air and fuel movements to the remaining droplets with the result that a more or less rapid rise of pressure occurs. The rate of combustion of the portion of the fuel injected after inflammation starts is governed largely by the injection system. If the turbulence is too great or if there is a large proportion of the fuel in the cylinder when combustion starts, the initial pressure rise may be very rapid and Diesel knock takes place, setting up violent vibration which may reach a destructive character in the working parts.

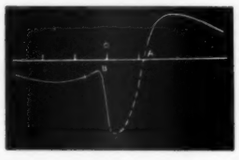


Fig. 3.—Volts amplified

It will be clear, from the above description, that, if a fuel is used which takes an undue time after the beginning of injection to reach the inflammation point, there will be an excessive amount of fuel available in the cylinder for uncontrolled burning at the end of this time and, in consequence, the combustion shock will be much heavier and risk of engine trouble will be greater. A fuel with a long ignition time will also, obviously, be a bad type for easy starting from cold.

We have thus to deal with the problem of selection of satisfactory high-speed oil-engine fuel in just as critical a manner as with the selection of a petrol for a petrol engine, and, for present engine types, it is essential to use only those fuels which start to burn quickly in order to secure ease of starting under any climatic conditions and freedom from objectionable running noise due to uncontrolled burning of fuel which does not begin to burn until an excessive amount has entered the cylinder.

There are, of course, other necessary characteristics for oil engine fuels, but ease of ignition is the primary factor for present engine designs.

Recognition of the importance of obtaining fuels which have a short "delay time" between injection and the beginning of rapid burning has meant that special methods of fuel testing have had to be developed such that phenomena occurring in times as short as one ten-thousandth of a second can be accurately observed. It is necessary, for example, to be able to determine precisely when the spray valve opens and to know whether it remains open or vibrates against its seating; the duration of opening must be determined and also, in some cases, the nature of the

Note: From "The Naft," Anglo-Iranian Oil Co., Ltd.

pressures in the fuel supply pipes. The difficulty of the problem may be realized when it is mentioned that an atomizer may be lifted only eight to ten-thousandths of an inch (two or three times the thickness of a sheet of note paper), the full lift taking less than a thousandth of a second, and that in addition the valve may partly or entirely reseat two, three, or even more, times during the next five or six-thousandths of a second.

Pressure waves in the fuel supply pipe between the fuel pump and the atomizer may lead to pressure fluctuations at the atomizer end of the pipe of the order of 1,000 pounds per square inch in times as short as those associated with the atomizer valve movements themselves; pressures in the engine cylinder may rise by 200 or 300 pounds per square inch in almost equally short intervals.

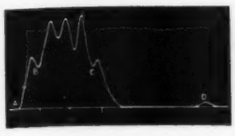


Fig. 4.—Fuel pressure

No mechanical indicator can give more than a very imperfect record of the changes which take place, and modern instruments depend on electrical methods of considerable ingenuity.

A description of the Sunbury electrical indicator developed and used in the research laboratory of the Anglo-Iranian Oil Co. for the testing of light Diesoleum may be of interest both as an illustration of this new type of measuring instrument and also to show more clearly the behavior of fuel in high-speed oil engines as already detailed.

Laboratory Equipment

Seven different types and sizes of Diesel engines are available in the laboratory. Each is fitted with means for accurate control of all running conditions and three designs can be used for measuring ease of starting as well as for running tests under load. In one, the compression ratio is adjustable to simulate different commercial engine designs or to meet special experimental requirements.

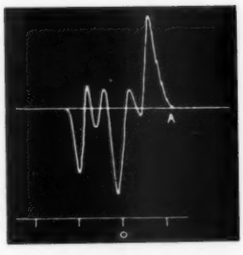


Fig. 5.—Velocity of atomizer valve

One of the essentials of the indicating apparatus is a cathode ray tube of the type developed for television purposes. Such a tube (shown diagrammatically in Figure 1) has the faculty of responding instantaneously to any electrical impulse applied to it, and, unlike any mechanical device, is entirely free from inertia effects which may introduce vibrations to mask effects actually taking place in an engine to which it may be applied.

When this cathode ray tube is in use a brilliant spot of light appears on a fluorescent screen at the larger end, and this spot is deflected by any voltages or magnetic forces applied to what are known as the deflecting plates of the tube. It is a comparatively simple matter to arrange a contact breaker driven from the engine crankshaft so that the spot of light travels across the screen along a horizontal line and so that it has always reached exactly the same place for any given position of the engine shaft. A ripple may be superimposed on this line which marks degrees of crank angle and also shows the top dead center or any other reference position. For normal fuel testing purposes the rate of movement of the indicating spot is such that it travels about one-tenth of an inch in a six-thousandth of a second, although either slower or faster rates are easily obtained with a simple control.

If a voltage is applied to a second pair of deflecting plates in the tube the light will move vertically instead of horizontally, and if this separate voltage is one which varies with, say, engine cylinder pressures, the vertical travel will be proportional to the pressures. By applying both voltages at the same time a diagram is produced which gives the change of pressure in the cylinder on a crankshaft degree base. Such a diagram is shown in Figure 2.

Considering now the method of obtaining cylinder pressure changes, many alternatives are available but, in all cases, there must be at least one mechanical member. Provided this is very stiff and is only required to move a very small distance, compared with anything used in conjunction with a mechanical indicator, its high natural frequency is so far above the frequencies at which phenomena associated with engine and fuel behavior occur that the limitations due to its mechanical nature are entirely negligible.

In the Sunbury indicator a small and thick diaphragm is used, mounted in a stout fitting screwed into the engine cylinder. This diaphragm has a natural frequency of the order of 40,000 cycles per second and even at the highest cylinder pressures has only to move about half a thousandth of an inch. Its inertia effects are thus negligible and it is practically unaffected as regards behavior by the temperatures reached in normal working. Its movements follow the pressure changes in the cylinder with such rapidity that its rate of movement at any instant is almost exactly the rate of change of pressure in the cylinder. Mounted near to this iron diaphragm, but at an appreciable distance from it in comparison with the maximum deflection, is a small electromagnet around the pole of which is wound a few thousand turns of fine wire. Voltages are induced in this coil when the engine is running which are very closely proportional to the rates of pressure change in the engine cylinder. These voltages are amplified in a special amplifier comparable in construction with a simple wireless receiver and applied to the cathode ray tube. The resulting diagram is shown in Figure 3.

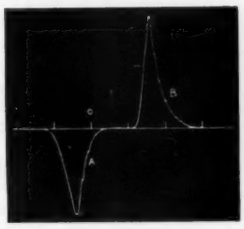


Fig. 6.—Valve lifting

In this figure, distances below the base line represent positive rates of pressure rise, while distances above the base line represent negative rates of pressure change. Where the curve crosses the base line is a point of no rate of change, i.e., the cylinder pressure diagram itself is horizontal. It will cross at a point of maximum pressure, A, and there will also be a crossing if the fuel does not start to burn before the maximum compression pressure is reached. B shows the instant at which the fuel begins to burn rapidly and C shows the maximum rate of pressure rise, which is proportional to the Diesel knock produced by the fuel in use.

Actually there are numerous ripples from C for some distance due to the effect of pressure waves traveling backwards and forwards in the indicator connections and, in some cases, in the cylinder proper. These have been smoothed out for clarity of description, although their analysis is sometimes important.

Such a diagram has many uses and gives data difficult to obtain in other ways, but it is desirable to be able to obtain a record of pressure changes as well as that of rates of change.

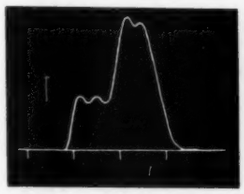


Fig. 7.—Valve lift curve

Mathematically, what is required is an integration of the rate of change diagram, and this is achieved by introducing a special stage in the amplifier. The precise arrangements adopted for obtaining results which are substantially accurate are unique and give the diagram already referred to in Figure 2.

A unit similar in general principle is used in the fuel supply pipe to register fuel pressures and an example of this type is shown in Figure 4. The fuel pressure starts to rise at A when the fuel pump plunger over-runs the pump suction port, and the rising pressure is checked at B by the opening of the spray valve. Following this is a series of pressure waves, the frequency of which is determined by the length of the fuel pipe, the atomizer valve closing at C soon after the pump delivery valve closes. In the design of pump used on the engine on which these tests were made there is a period during which a partial vacuum is created in the pump barrel. When this barrel is opened to the suction pipe the rush of fuel to fill the vacuum gives a blow to the delivery valve which lifts slightly and sends a pressure wave as shown at D through the fuel pipe to the spray valve. Normally this will not reopen although it may do so in certain circumstances producing a later and almost wasted injection of fuel.

In order to obtain a diagram of the actual movements of the atomizer valve a still simpler method is adopted. The end plate above the valve itself against which the valve spring presses is used instead of a diaphragm, a similar electrical unit to the cylinder unit being mounted close to it. The rate of change of movement, i.e., a diagram showing the velocity of the atomizer valve, is obtained as shown in Figures 5 and 6. In Figure 5 the valve never lifts to the upper stop but vibrates up and down after lifting until it seats at A. The ripples at this end of the diagram are due to vibrations of the moving parts of the valve assembly. Figure 6 shows a diagram taken when the valve lifts fully against its stop. Ripples due to valve component vibrations then occur both immediately the valve strikes the stop at A and again when it strikes the seat at B.

Operating Control

The same switch on the amplifier which introduces the additional stage for converting rates of pressure change to pressures is used to convert the atomizer velocity diagrams to actual lift diagrams. One of these, corresponding to Figure 5, is shown in Figure 7. It will be noticed that the various horizontal parts of the valve curve of Figure 7 agree with the points on Figure 5 where the velocity is zero.

Figure 8 is a composite diagram including Figures 2 and 7 and below is a scale of crankshaft degrees. The top dead center position is shown by the large ripple and each wave covers two degrees of crank movement or, at the engine speed at which these tests were made, one three-thousandth of a second. This composite diagram shows very clearly the points mentioned in the earlier part of this article. The atomizer begins to lift visibly at A when the crank is 13 degrees before top center. At B, 2 degrees before top center, combustion begins, the difference of 11 degrees being known as the delay angle for the fuel. The maximum rate of pressure rise is at C, better determined from a rate-of-change diagram and being a measure of Diesel knock. The dotted line shows a diagram taken from a low-ignition quality fuel—the delay angle is much longer and the maximum rate of pressure rise is greater, giving more Diesel knock. Such a fuel will also be more liable to lead to starting troubles.

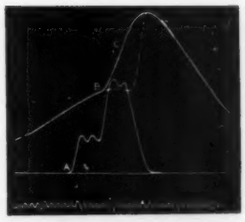


Fig. 8.—Composite of Figures 2 and 7 with crankshaft position in degrees below

While special attention has been directed to the means adopted for insuring that high-speed oil-engine fuel shall be of the necessary quality as regards ignition characteristics, the apparatus described has many other uses. It can be applied for measuring the torsional deflection of a shaft at any instant while running under a varying load, and for the examination of critical speeds, shaft whip, exhaust system and induction system pressure changes, etc. It is suitable, in fact, for exploring almost any rapidly fluctuating occurrences which can be made to move a small magnetic diaphragm or rod, and it forms the basis of an instrument which must soon be indispensible in any properly equipped research laboratory.

Texas Panhandle Cable Tool Drilling Standardized for Local Conditions

By L. G. E. BIGNELL

To successfully penetrate quicksand, gypsum, cavey lime, salt beds and Dolomite Texas Panhandle operators have standardized cable tool drilling so all casing but flow string can be pulled when well is completed.

The Texas Panhandle contains about 110,300 acres of proven oil and gas land and 1,013,632 acres of gas territory, a total of 1,123,932 acres of proven area. These oil and gas fields are distributed through seven counties and have been explored since 1919 when gas was first found in Potter County, north of Amarillo. Oil was found in Carson County in 1921 and the field extended north into Hutchinson County during the next year. From that time down to the present there has been more or less activity in the region with about 4,250 wells completed in the seven counties and thousands of locations still to be drilled in proven territory.

For a time while the East Texas Field was being developed there was little activity in the Panhandle of Texas but during 1934 there were 449 wells completed as compared with only 136 completions during 1933. During the first half of

Cable tool outfit drilling on the Gulf Production Co.'s Thompson lease, near Pampa, Tex.

1935 there were 317 wells drilled in the area of which 261 were oil and 35 gas wells with 21 dry holes. The activity in drilling still continues and apparently there will be no secession in this work for a long time.

Practically all of the work is done with cable tools because early attempts to drill in this area with rotary outfits proved very unsatisfactory. Many of the formations are very hard and there are streaks of swelling and caving ground that give trouble when wetted. The formation pressures are now so low that attempt to drill in with rotary tools would be very unsatisfactory because the mud would go back into the formation and cut off the production, either gas or oil.

During the long period cable tools have been used in this area there has been worked out a drilling program followed by most operators and very well suited to the conditions in this region. While a good deal of casing is run in the hole as it is drilled it is all recovered but the flow string. Using these extra strings of casing give good control over the various formations as penetrated and it is largely for this reason cable tool drilling is practiced.

A typical drilling program starts with the digging of a 12-foot deep cellar in which a 20-foot length of 20-inch conductor pipe is cemented. The bottom of the cellar is sloped toward the top of the 20-inch conductor so mud or cement may be later dumped into the cellar and will find its way down between the various strings of casing as will be later described.

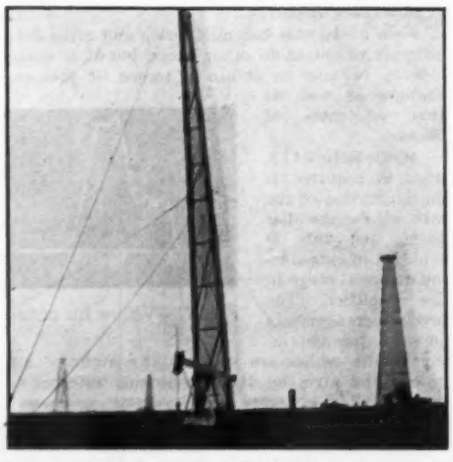
The 20-inch conductor being cemented in place the hole is then reduced to 18-inch and drilled about 300 feet where a string of 15½-inch casing is set but not cemented. It is usual practice to carry this string of 15½-inch casing with mud back of the pipe and water inside to equalize pressures. When the casing seat is reached the shoe on the 15½-inch string is set and the mud remains behind the casing so it may later be pulled without difficulty.

In this upper 300 feet of hole quicksand and rotten redrock is encountered and some water and it is quite essential the pipe be set to shut off this upper water so the further drilling may be carried on without having a hole full of water.

After setting the string of 15½-inch casing the hole is drilled to a depth of about 600 to 650 feet using a 15¼-inch bit. Some of the formations encountered between 300 and 650 feet will not stand and the string of 12½-inch casing is carried and an eccentric bit used which will dig a hole large enough for the 12½-inch casing.

It has been found the eccentric bit works better if the stem above it is not permitted to leave the bottom of the casing. The casing is carried 12 to 15 feet above the bottom of the hole and the hole is filled with sufficient water to equalize the pressure exerted by the mud behind the pipe.

The 12½-inch string of casing, like the string of 15½-inch casing is swung on casing clamps and



Well on Gulf Production Co.'s Thompson lease near Pampa, Tex., pumped with jack

the space back of the pipe filled with mud. This mud is mixed with Aquagel to give it good lubricating characteristics and to hold the solids in suspense. The mud is made from material secured from shallow lakes in the area and is black in color and the mixture of mud and Aquagel is 2 to 1, about 4 tons of Aquagel being used for each hole along with 8 tons of mud. This mixture permits the casing to be pulled later without trouble.

Out of the 12½-inch casing the hole is drilled with 12¼-inch bit to about 800 feet where an eccentric bit is again used to continue this hole to a depth of about 980 to 1,000 feet. This hole is for the string of 10¾-inch casing and it is carried with mud back of the pipe and the hole filled with water to equalize pressures.

There is a casing point in the gypsum above the salt beds upon which the string of 10¾-inch pipe is set but before it is actually lowered to the casing seat water is bailed from the inside

View along walk between derrick and engine house on cable tool rig

of the pipe until the mud shows up in the bailer indicating all of the space back of the pipe is filled with this mud fluid.

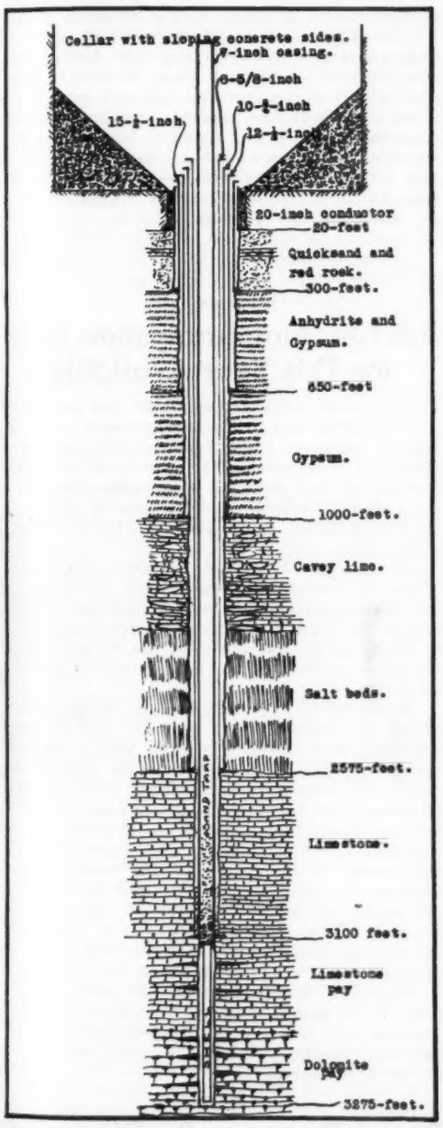
After the 10¾-inch string is set the hole is reduced to 10 inches and drilled to a cavernous formation below the salt beds found between 1,100 and 2,200 feet. To drill this hole through the formation containing the caves it is usual practice to run the string of 8⅝-inch casing to a point where the caves will be shut off and then to underream the pipe through the salt beds and down to a total depth of about 2,575 feet where it is set with shoe. About a half bailer of water is carried in the hole from the top of the salt and the string of 8⅝-inch casing kept close to the underreamer so little open hole is exposed at any time.

This section of the Panhandle formations is the one that will give the rotary outfits most trouble for circulation would be lost and hard to re-establish. With the cable tools no attempt is made to fill the caves, the casing being set through them and the hole protected on down through the thick salt beds passed through between 1,100 and 2,200 feet.

With the 8⅝-inch string of casing set at about 2,575 feet an 8¼-inch bit is used to drill between

3,050 and 3,100 feet where a string of 7-inch casing is set and cemented with about 30 sacks of cement. This is the flow string and the well is completed by drilling in a distance of about 100 feet with a 6⅝-inch bit. The production is found between 3,205 and 3,275 feet in a lime and Dolomite.

The upper part of this section contains a black oil but the lower pay carries sweet oil of good gravity. The hole is usually shot with about 400 quarts of nitroglycerin in a 5½-inch shell tamped with broken brick or tile and topped with river gravel. Usually the shell is placed with a time bomb and then the pieces of broken brick thrown into the hole and they sink through the fluid which stands from 1,200 to 1,500 feet in the well. This forms a bridge above the shell and about 15 feet of river gravel is then run and tamped lightly. About 20 feet more gravel is dumped on



Generalized section of Panhandle well casing program, also showing sand tamped shell in hole before shooting

top of the first material in the hole and all is tamped down. Then the hole is filled with more gravel until a thickness of tamp is from 75 to 80 feet above the shell.

As oil enters the well when the hole is drilled through the lime and Dolomite there is fluid around the shell and above the tamp. The time bomb is set to discharge the shot in about 11 hours after placing and this gives ample time to prepare the hole. After the shot it requires from 8 to 10 days to bail out the material loosened by

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the shot. As the whole section of 80 to 100 feet of formation is shot a large cavity is created. In one instance a 48-foot long bailer was lost in the bottom of the hole and could not be recovered by ordinary fishing tools as it lay back against the wall at some distance from the center of the hole. It was finally recovered by the use of a tool with an extending arm that reached out into the hole far enough from the center to engage the bailer and bring it to the surface.

After the string of 7-inch casing has been set and cemented all other casing in the hole is pulled. The space back of the 7-inch string above the cement is filled with mud and as there is oil inside the string the danger from collapse is reduced to a minimum. This mud is run back of the 7-inch string by pumping it into the bottom of the cellar through which the upper end of the 7-inch extends.

Structural steel 60-foot masts used over pumping wells in the Panhandle district, Texas

As each length of casing is pulled this mud settles around the 7-inch and protects the hole from undue caving. By this method it is possible to drill the quicksands encountered at about 300 feet which caves badly and pass through the caves in the formation encountered above the salt beds in a satisfactory manner. With rotary tools these two sections would give much trouble from loss of circulation.

The well is tested by running a string of tubing and putting it on the pump. A 24-hour potential test is made and the total production during the period recorded. From this total volume of oil 20 bbls., marginal well allowable, is deducted. The well's allowable is 2.06 per cent of the potential for 24 hours and to this allowable is added the 20 bbls. each pumping well is permitted to produce under Texas law. For example if the well pumps 400 bbls. in 24 hours, 20 bbls. is deducted leaving 380 bbls. upon which the 2.06 per cent allowable is figured. This gives the well 78.28 bbls. daily allowable plus 20 bbls. marginal well allowable, or a total of 98.28 bbls. daily.

The oil from the lime and Dolomite formation has a 43 degree gravity, about the same as the oil found in the granite wash below the lime.

Most of the wells in the area around Pampa are now completed in the lime and Dolomite because the pressure in the granite wash section is very low. If the well is deepened into the granite wash it is found the fluid will raise only 75 or 80 feet in the hole indicating a formation pressure of less than 30 pounds. This very low formation pressure presents a problem in finishing wells in the granite wash, for even a slight amount of drilling water will flow back into the formation and make it hard to bring in the well.

After the wells are completed they are put on the pump. In some instances the derrick is left over the hole and the well pumped by beam or pumping unit powered with gas engine. On some leases back side cranks are installed at the powered wells and rod lines run to nearby wells pumped by jacks. Under such circumstances it is usual practice to cut down the derrick and remove it from the location and in its place to erect a structural steel mast.

These masts are about 60 feet high made of "I" beams and angles and fitted with some form of hinge at the base. One form uses a length of 8-inch pipe across the base of the mast and this length of pipe fits into sockets cast in the concrete foundation. At the upper end of the mast a 3-inch shaft is mounted through the side members of the mast and on this shaft two 22-inch sheaves are placed. The upper end of the mast is not cross braced so there is ample space to permit the traveling block to be pulled up close to the sheaves.

These masts are finding favor with some companies because they permit the salvaging of some derricks and also allow the wells to be pumped from the adjacent well upon which is located the gas engine and beam pumping outfit. The back side crank with rod lines transmit the power to the well pumped with jack.

The cable tool outfits are made up of 6-inch rig irons, either wooden or steel walking beams and samson posts, with chain driven sand reels. In some instances wooden band wheels are used but generally steel band wheels are preferred. The usual type 12x12-inch steam engines are used to furnish power and a 70-horsepower locomotive or oil field boiler provides steam. All derricks are of steel and 84 feet high with steel crown blocks.

The drilling is done by contract and company tools and three crews working eight hours each, man the rigs. It requires about 30 days to complete a well to the lime and Dolomite formations found at 3,205-75 feet. Surface elevation is about 3,250 feet so the pay is found at just a little below sea level. Based on the height of fluid column in the hole the formation pressure ranges from 425 to 522 pounds but this calculation does not allow for gas accompanying oil and actual bottom hole pressure tests taken in 1933 indicate the pressure ranged from 327 pounds in Hutchinson to 428 pounds in Hartley Counties.

A.S.T.M. Standardization Book for This Year Available

Each year A.S.T.M. Committee D-2 on Petroleum Products and Lubricants sponsors the publication under one cover of all A.S.T.M. standards pertaining to petroleum. The current edition, 1935, contains 57 test methods, six specifications and two lists of standardized definitions of terms, all of this material being given in its latest approved form.

The current report of Committee D-2 comprises an interesting discussion of the work on the Sligh oxidation test with a proposed method of test for oxidation number of lubricating oils by the Sligh method and gives the revised Diesel fuel-oil classification which is published for information.

A new method of test given for the first time covers the vapor pressure of motor and aviation gasoline (Reid method). During 1935 a number of the standard methods given in the compilation have been revised including those covering the following: test for dilution of crankcase oils, distillation of gasoline, naphtha, etc., ductility of bituminous materials, testing emulsified asphalts, flash point by means of the Tag closed tester. Changes also have been incorporated in the tests for residue of specified penetration, precipitation number of lubricating oils, viscosity by means of the Saybolt viscosimeter and water and sediment in petroleum products by means of the centrifuge.

Copies of this publication, 358 pages, heavy paper cover, can be obtained from A.S.T.M. headquarters, 260 S. Broad St., Philadelphia at $1.75 per copy. Special prices are in effect on orders for 10 or more copies.

Diesel Power to Be Discussed in Kansas A.P.I. Meeting

The Kansas Chapter of the American Petroleum Institute will meet October 11 in the Eldorado Hotel of Eldorado, Kans., the meeting being devoted to the subject of Diesel power. Emil Opferkuck, of National Superior Engine Co., will talk on "Application of Diesel Engines to Industry," and another paper is being prepared dealing with the "Operations of Diesel Engines in Sulfide Areas." M. R. Shaffer, production manager for Empire, will give a history of the discovery and development of the Eldorado Field since October 11 will be the twentieth anniversary of the discovery of oil in the Eldorado Field.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Apparatus for Testing Oiliness Or Stability of Lubricating Oils

Several years ago an instrument was described in The Oil and Gas Journal for testing the oiliness or stability of lubricating oils. Can you tell when this article appeared or give me a description of the machine?—C. E. W.

A lubricant tester was described by John S. Phelps, in The Oil and Gas Journal, September 7, 1933, making use of test bearings. The test bearings include one at the top with accurately measured face resting against the lower one, which is of larger diameter, allowing for any inaccuracies in alignment when assembling for a test run. The bearings were made in pairs, of cast iron, cold rolled steel, and hardened tool steel.

"The top ball bearing is a thrust bearing, with a single ball set into the top of a spindle. This ball rests against a hardened tool steel plate, held in the housing carrying the knife-edge. The knife-edge, together with the V-block on the weight beam, are of tool steel 1½ inches wide to prevent any tendency to rotate. The weight beam is of one-half inch by 1½-inch tool steel, and is supported by three-eighths inch polished steel pins. The weight ratio is 25 to 1. The unbalanced weight of the spindle, belt, bearings and pulley is 3 pounds. The ball bearings on the spindle have a press fit on the spindle, and a sliding fit in the mounting brackets.

"The lubricant cup is of cast iron, and of such a size that it will easily hold the 250 cubic centimeters of sample, and completely submerge the test bearings. The cup rests upon an adjustable bracket clamp which has a small adjustable jack beneath it, so that the weight beam may be adjusted to stand in a horizontal position. The spindle is driven by a one-quarter horsepower Kimble variable speed motor, one-quarter turn V-belt connected."

Tests were run at a spindle of 500 r.p.m., giving a rubbing speed of 65 feet per minute for the 0.2-inch bearing, for 10 minutes, without weights, then 1-pound weights applied at five-minute intervals until maximum load was approached, then increments of 2 to 10 pounds were added until seizure occurred.

The Almen extreme pressure lubricant testing machine was described by Wolf and Mougey in The Oil and Gas Journal, November 17, 1932, page 58. This machine employs a quarter-inch diameter drill rod journal and a half-inch split bushing. The journal is polished and the bushing is ground, after splitting, on the bearing surface with a form grinding wheel. Pressure is applied to the split bushing through a mechanical and hydraulic loading system.

The entire assembly including the oil sample cup and loading cylinder are cradled around the center of rotation of the journal. The torque developed is indicated by a gauge. The machine is belt driven to operate at 600 r.p.m. Two-pound weights are applied on the loading beam at 10-second intervals until seizure occurs or until a total of 30 pounds has been applied. Each 2-pound weight is equivalent to 1,000 pounds per square inch.

Another apparatus for testing the lubricating value of oils, the consistometer, was mentioned in The Oil and Gas Journal of October 3, 1929, page 312. This instrument tests an oil and records on a chart the lubricating values at varying temperatures, operating with an 8-ounce sample. The revolving bearing surfaces, discs, are submerged in the oil. Outside the test bowl is another which may be heated for a hot test or cooled with solid carbon dioxide for a cold test. The contact area is 1 square inch, which is subjected to a constant pressure of 14 pounds.

The consistometer will run hot tenacity tests on any oil, drawing mechanically a viscosity curve from 100° F. (or from any other temperature desired) up past the point of transition to the points of film-thin and film-rupture, until the oil has lost its practical lubrication value. Such tests take from 15 to 20 minutes. The consistometer will draw a cold fluidity test curve from 100° F. down to the point where the oil loses its true fluidity and lower, until the oil becomes a stringy mass and channels. Cold fluidity tests similarly require 15 to 20 minutes to subzero temperatures.

Various methods for testing lubricating oil are outlined by C. W. Woolgar in The Oil and Gas Journal, September 19, 1935, page 34.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit problems to Dr. C. K. Francis. Questions should give as much detail as possible. Inquiries must be signed but only the given initials will be printed. The source of questions is considered confidential. Questions requiring discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered in these columns.

Base as Used for Classification of Various Kinds of Crude Oils

What is the origin and meaning of base as applied to the various crude oils?—J. V. T.

Smith and Lane explain in Bull. 291, U. S. Bureau of Mines, that many oil producers and refiners use the word "base" much as it is used in pharmaceutical work. For example, the "base" or "basis" of an ointment or salve is the fatty material (lard, petroleum, or lanolin) used as a vehicle or carrier for the active medicinal principles. Apparently many of the pioneers in the petroleum industry considered crude oil similar in nature to these medicinal products in that it consists of a semisolid, nonvolatile base and a volatile portion can be distilled off to make gasoline, kerosene, and other products. Many crude oils when chilled slowly deposit a waxy material (paraffin); this fact may have been one reason for the use of the term "paraffin base" in referring to such oils. Almost all of the petroleum first discovered in the United States was of this nature; not until the oil industry was extended to California and along the Gulf Coast was petroleum found that contained no wax but apparently did contain asphaltic material. Accordingly, these oils were known as "asphalt-base" oils. The use of this term, however, seems unfortunate, as better-grade oils of this type contain little if any asphalt; the descriptive term "naphthene base" now seems to be a more desirable term than "asphalt base." The term "intermediate base" is also used commonly in referring to oils intermediate in characteristics between those that are distinctly paraffinic or naphthenic.

Standard Sunlight Hour Is Defined; Method for Making Sun Test

It will be appreciated if you will give us the directions for making the Sun Test of Gasoline. How long are the samples exposed? What is the meaning of "Standard Sunlight Hour?"—A. S. C.

The color stability of gasoline, with particular reference to the color stabilization by the addition of amines, has been very thoroughly investigated by L. V. Sorg and reported in Industrial and Engineering Chemistry, 27, 156, 1935. A method adapted to a quantitative expression is described and the desired definition is also contained in this article. The details of the method for sun test are quoted from his description.

"The tests of sunlight color stability were made by exposing the gasoline in French type square quart (0.95-liter) bottles on an aluminum painted board. The bottles (8x8x20 cm.) were carefully selected from the same lot so that the transmission of radiant energy would be as uniform as possible. The bottles were not vented during exposure, but the method of sampling (pouring) permitted air to enter the bottles at hourly intervals. They were filled to the neck and stored in the cold until exposed. Immediately before exposure a 120-cc. sample was removed for the initial color determination. At hourly intervals a similar sample was removed from the same bottle. Thus, the same amount of gasoline was in each bottle during the entire period of test.

"To correct for variations in the intensity of the sunlight during the periods of exposure, the uranyl acetate-oxalic acid actinometer was used as suggested by Beard and Reiff. Twenty-five cubic centimeters of 0.1 N oxalic acid solution containing 0.001 mole of uranyl acetate per liter were exposed with the gasoline samples in a separate 120-cc. oil sample bottle. At hourly intervals a new portion was exposed so that, after titration of the exposed samples with potassium permanganate, a record of the hourly sunlight intensity was obtained.

"Plotting the amount of oxalic acid decomposed for a time interval as a function of the Saybolt color after the same time interval, gives a valid relationship."

There is no standard period for the sun test but three hours in a stoppered 120-cc. (4-ounce) bottle is a common practice. Some operators prefer to make the test in an open bottle. There is also some variation in the practice of filtering or not filtering the exposed sample before making the color determination. These conditions should be stated when reporting results.

Sorg introduces the term Standard Sunlight Hour and defines it as the equivalent of the decomposition of 30 mg. of oxalic acid per hour. This unit is obtained by experiment where it was found that the brilliant summer sunlight causes the decomposition of 31.08 mg. per hour; 30 being selected as a convenient figure. The color observed at 30, 60, 90 mg. of oxalic acid decomposed represents one, two and three hours.

Lowry, Smith and Murphy have developed a method for making the sun test, in which they obtain the light from a modified carbon-arc lamp. The apparatus was standardized by comparison with the action of the sun upon gasolines in the latitude of Chicago on clear days during July and August. It was concluded that under these conditions 40 minutes' exposure in ordinary glass to the action of the arc was equivalent to two hours in the sunlight.

References: Beard and Reiff, Ind. Eng. Chem., Anal. Ed., 3, 280, 1931; Lowry, Smith and Murphy, Ind. Eng. Chem., 7, 140, 1935.

PROBLEMS FROM READERS

Edited by T. F. Smiley

Water Drive in the East Texas Field and Using It to Best Advantage

In reading an article on the water drive I noticed a statement that there is a natural water drive in the East Texas Field. I am curious to know whether such a "natural" water drive acts just the same as in an old field, like the Bradford. My understanding has been that the water drive was a thing to be used only to recover oil remaining in the sand after ordinary methods of recovery had been used. So I am a little confused now, as East Texas is not by any means an old and almost worked-out field. How is it determined that there is a water drive in East Texas and how are operators to benefit by it, assuming that they can benefit?—E. N. E.

The conclusion reached by petroleum engineers that water drive exists in the East Texas Field is based on data accumulated through an exhaustive study of that area from virtually the beginning of its productive life. Facts in hand include the properties of the oil and gas produced, the nature of the reservoir, the sources of energy by which the oil is produced, and the behavior of the field under varying rates of withdrawal.

In a paper prepared last spring discussing the information obtained on this subject and interpreting its significance to operators in the East Texas Field, T. V. Moore, research engineer for the Humble Oil & Refining Co., said:

"Perhaps the most significant of these data are subsurface pressure records, which show:

"1. That the average reservoir pressure which was originally 1,625 pounds per square inch (weighted for area) has never fallen below 1,220 pounds per square inch. This has resulted in maintaining the productivity of the wells and prolonging their flowing life, even though 644,000,000 bbls. of oil were produced prior to January 1, 1935.

"2. The rate of production affects markedly the rate of decline in pressure. Pressures fall rapidly under high rates of withdrawals, and build up again when the rate is reduced. This indicates that the energy of the field is being replenished from some external force.

"3. The pressure within the field, corrected to a common datum, is highest along the western boundary of the field and lowest along the eastern boundary. The pressure gradient across the field is a function of the rate of flow. The pressure distribution is not appreciably affected by heavy withdrawals from small areas. This shows that the oil is migrating from east to west across the field under the influence of some force other than energy of the fluids within the reservoir.

"These facts alone suggest that the field is under water drive, the water moving in from the Woodbine basin at the western edge of the field, driving the oil eastward as it encroaches into the oil reservoir. The data on subsurface samples obtained from the field verify this conclusion. These samples show that although the oil contains about 375 feet of gas in solution per barrel of oil, this gas is not released until the pressure becomes less than 740 pounds per square inch gauge.

"The theory that water has replaced completely the oil that has been produced in East Texas offers the only tenable explanation for the behavior of this field. No other hypothesis explains the consistent increase in pressures that have been observed whenever the production rate has been reduced to a sufficient extent, and no other hypothesis can explain the maintenance of pressure at values higher than that at which free gas escapes from solution.

"The question then arises as to how the force of this water drive can be used to best advantage in the production of oil. This can be accomplished by producing the field in such a manner that the water furnishes all of the energy necessary for oil production, while all of the gas is kept in solution in the oil. Gas in solution imparts to the oil physical properties that will aid materially in securing high recovery, while gas disseminated throughout the pore spaces of the sand serves to restrict unduly the flow of oil to the wells.

"If the water drive is to be used to best advantage, the oil must be withdrawn at a rate sufficiently low to permit the water to continue its complete replacement of oil in the pore spaces of the sand, so that the pressure in all parts of the field will remain above 730 pounds per square inch. To do this, the field should be produced in such a manner that the average pressure will never fall lower than about 1,000 pounds, which can be done by controlling the rate of production."

Readers are invited to send questions relating to drilling, producing and transporting operations. These questions will be placed in the hands of persons capable of answering them authoritatively. The names of those writing for information will be considered confidential, initials only being published. This department cannot undertake to answer questions involving patents or intricate formulas or those which properly should be submitted to consulting engineers, geologists or lawyers.

WHY THEY CALLED IT

Seismograph

The seismograph used in oil prospecting developed from an instrument of the same name by which earthquakes are recorded and their points of origin determined. It records and analyzes the actions of sound waves through the earth in such a way as to reveal important information concerning subsurface conditions. One of the earliest seismographs is said to have been invented about 136 by Chinese, who called it "choko." It consisted of three bronze dragons holding in their teeth brass balls which when disturbed by seismic vibrations dropped into the mouths of three frogs squatting beneath. The word "seismograph" is derived from two Greek words, one meaning earthquake and the other meaning to write.

Irregularity in Shapes and Sizes Is a Characteristic of Salt Domes

I would like to know something about the salt domes that are referred to often in oil news from the Gulf Coast. Are they visible on the surface? I mean by that are they in the form of hills or mounds with rounded tops? If they are underground, how far beneath the surface are they found? Are they anywhere near uniform in the matter of shape and size? Is the salt in these domes ever mined for commercial use? I have looked through all the literature that I can get hold of and I can't seem to find anything that gives this detailed information.—G. W. O.

The following reply to your question is provided by E. G. Woodruff, geologist, who made a study of the Gulf Coast region:

"One way to grasp the idea of the salt domes is to think of the Gulf Coast country with all sand, shale and gumbo beds removed from around the salt domes and down to the main salt strata. In that case there would appear scattered over the countrly 300 and possibly 500 salt plugs or columns. These salt columns would be irregular in size and shape. Some would be 300 or 400 feet in diameter and more than 2 miles high. Others might be a mile in diameter. The tops would be uneven, some being higher than others. The deep seated ones would be low. The sides would be rough with overhangs on the sides or tops and stringers extending out.

"Where the salt came from and how it reached its present location is a subject for technical discussion, but the salt must be strata deposited in basins. Hence the domes can be expected only where there were low basins such as the Gulf Coast, the Tyler Basin and Smackover, and not on the central high or the Sabine uplift. Salt domes occur only in oil provinces where all conditions are just right.

"However, the upward movement of the salt created conditions favorable for the accumulation of the oil. The strata are arched over the top of the salt dome and form a trap for the oil. The formations on the side of the domes are uplifted against the plug and are sealed by the salt so the oil accumulates but cannot escape, and thus the top pools and the side pools are formed.

"In the early days a dome was a surface mound under which there might be salt or sulphur. There were not many of these low hills, but the term became so common with the oil men that now it is generally used to mean any circular uplift, whether a hill, or subsurface movement of the formations which does not show on the surface but can be found with instruments. The idea of a dome was vague in the early days but a study of drill cuttings and small fossils in the formations has given a fairly accurate idea of the salt dome structure.

"These domes are of various sizes and shapes. They may be a few hundred feet across the top or 2 or 3 miles. Some of these columns of salt are 2 and possibly 3 or 4 miles high.

"Some salt plugs come to within a few hundred feet of the ground. Some of the tops of the salt are so near the surface that shafts have been dug into them an extensive salt mines operated. Others are deep seated, meaning that the drill has not reached the top of the salt. These salt masses are generally domed over the top and are very irregular on the sides, branches, wedges and chutes extending out into the formations, especially along the bedding planes of adjacent formations. In some places the salt overhangs at the top. The drill may go into solid salt and pass through it and out again into shale or oil sand. In such place it seems that the oil is under the salt."

North Louisiana, Arkansas

NEW RODESSA WELLS LARGE PRODUCERS OF OIL AND GAS

By J. R. CRUMPTON

SHREVEPORT, La., Oct. 7.—United Gas Public Service Co.'s No. 1 William Bremer, 1,980 feet north and 660 feet east of SW cor. of Section 22-23-16, added another good producer to the Rodessa Field during the past week. The well, an offset to the east of No. 1 Young, the discovery well, is the third producer with no water show. The first flow gauged 72 bbls. per hour through one-half inch choke on tubing, and after cleaning itself out, gauged 225 bbls. per hour on same sized choke on casing. Porous Oolitic lime was contacted at 5,944 feet and top of oil-bearing lime at 5,977 feet, encountering 23 feet of pay lime to 6,000 feet. The hole was cored to a total depth of 6,008 feet, the last 8 feet logging shale. Elevation on No. 1 Bremer is 210 feet, making a subsea bottom of 5,798 feet. The discovery well, No. 1 Young, was completed at total depth of 6,048 feet, surface elevation 209 feet or subsea bottom of 5,839 feet, 41 feet lower subsea than the offset to the east.

United Gas Public Service Co.'s No. 1 Thomas unit, Section 23-23-16, one-quarter mile north of Rodessa townsite, is making a better well than first reported last week. The well is flowing 63 bbls. per hour through one-half inch choke on tubing and the water has decreased from 10 per cent on first gauge to 5 per cent. The total depth is 6,039 feet. The decrease in water content bears out the theory that the field has a lenticular condition, the present water show being in small lens and should soon be depleted. Many of the operators do not believe that the true water level of this area has been contacted.

90,000,000-Foot Gasser

Arkansas-Louisiana Gas Co.'s No. 1 J. S. Teamer, 330 feet north and 660 feet west of SE cor. of SW of Section 13-23-16, the farthest northeast test in the field, is not officially completed at this writing but shows to be a good gas well with a spray of oil. The well made an estimated gas flow of 90,000,000 feet with the oil spray and cleaned the hole to 6,070 feet with the total depth at 6,105 feet. The crew is running tubing for future testing. The log shows the well to be on the updip toward the gas area, logging a subsea depth of 5,805 feet and no show of water on first test. Its 6,105 feet total depth is deeper than any well yet drilled in the field, but it also has a much higher surface elevation, 300 feet, and the subsea bottom of 5,805 feet is only 18 feet below the imaginary water line.

Rodessa should have two more completions during the coming week. R. W. Norton's No. 1 Caddo Levee Board, Section 21-23-16, north offset to the discovery well, is running 5¾-inch casing at 5,922 feet. Top of saturated lime was logged at 5,844 feet and cored to 5,960 feet. United Gas Public Service Co.'s No. 1 Rodessa Oil & Land Co., Section 15-23-16, one-fourth mile west of O'Brien Brothers completion, set 5¾-inch casing at 5,965 feet with the total depth at 6,014 feet. Completion of the well has been delayed by a fishing job for Schlumberger weight lost in the hole while making a test.

Haynes Production Co.'s No. 1 Harry Otwell, Section 15-23-16, has cemented back to 6,000 feet from the first total depth of 6,081 feet. On first completion it flowed at the rate of 500 bbls. per hour on small choke but contained 3 per cent salt water. It was plugged back to 6,021 feet and continued to show about 4 per cent water with a 200-bbl. per hour oil flow. The log shows oil bearing lime contacted in the well at 5,981 feet, and when plugged back to 6,000 feet will leave only 19 feet of pay lime which should be enough for a good well.

Pelican Oil & Gasoline Co.'s No. 1 Sexton, Section 14-23-16, was ordered to close down the well by the Minerals Division of the State Conservation Commission to conserve the gas after blowing to test for several days. The well was killed and deepened to 6,068 feet and flowed 20,000,000 feet of gas and 30 bbls. per hour of 52 gravity oil. It is reported that the well has been killed for the fourth time to deepen with the drill bit attached to tubing.

Big Leasing Campaign

Leasing activity in northwest Louisiana continues at a brisk rate, practically all of the known structures being checkerboarded by the major companies and larger independent operators. One major transfer involving a large block of acreage in the Sligo area of Bossier Parish was announced during the past week. Producers Oil & Gas Co., headed by W. E. Hall, independent operator of Shreveport, sold one-half interest in approximately 10,000 acres, part of which is in the proven area of the Sligo gas field and extending several miles northeast. The purchase was made by the Win or Lose Oil Co., headed by Lieut. Gov. James A. Noe of Monroe, a veteran oil and gas producer in North Louisiana fields. The tract has one gas well, one test rigging up and a test in wildcat territory to the northeast of production that has drilled to 704 feet. An active drilling campaign will be started immediately by the co-owners and a thorough test made of the Glen Rose possibilities for both oil and gas.

The Sligo Field, which produces highly saturated gas from the Glen Rose from 1,200 to 1,300 feet higher than the Rodessa Field, has one test now drilling to that horizon. Arkansas-Louisiana Gas Co.'s No. 3 R. O. Roy, Section 18-17-11, topped massive anhydrites at 3,725 feet and is drilling in anhydrites at 3,770 feet.

Daily Production

Estimated daily gross production all companies for week ending October 4, 1935:

NORTH LOUISIANA

Bellevue	545
Caddo Light	4,400
Caddo Heavy	2,340
Converse	1,245
Cotton Valley	380
De Soto and Red River	1,405
Elm Grove	385
Haynesville	3,340
Holly	180
Homer	2,675
Pleasant Hill	170
Rodessa	5,650
Sarepta-Carterville	470
Urania	2,910
Zwolle	1,540
Total	27,635

SOUTH ARKANSAS

Champagnolle	2,080
El Dorado	2,265
Lisbon	310
Miller County	1,535
Nevada	850
Smackover Light	2,300
Smackover Heavy	17,820
Stephens	625
Urbana	2,400
Total	30,185

Interesting Wildcat

In rank wildcat territory, Amerada Petroleum Co.'s No. 1 Weil, Section 53-1s-2e, near the town of Cheneyville in Rapides Parish, is holding the center of interest. A drill stem test from 5,704-52 feet developed 12 joints of cut oil and mud and three joints of salt water and mud. No casing is reported to have been set to test the show further and the crew is coring ahead in sand and shale at 6,015 feet. The test is located on a geophysical high and is equipped with a rig capable of making an extraordinary deep hole. Other wildcats in the North Louisiana area follow: Caldwell Parish, Critchett & Woods' No. 1 Kyles, Section 18-11-3e, plugged back to 1,698 feet after testing dry at 1,728 feet and will whipstock; Claiborne Parish, J. H. Lester is rigging up on No. 1 Green, Section 18-21-6, a few miles northeast of the Homer Field; E. T. Oakes' No. 1 H. W. Patton estate, Section 1-20-5, 6 miles north and east of the Sugar Creek Glen Rose gas field, drilling in lime and shale at 3,430 feet. In the southern part of the parish and about 8 miles east and north of the Sugar Creek Field, Ryan Oil Co.'s No. 1 F. A. Gladney, Section 10-23-16, is rigging up for an upper Trinity test. De Soto Parish: Century Drilling Co.'s No. 1 D. Bailey, Section 25-11-14, topped the Nacatoch at 1,168 feet, top of chalk at 1,320 feet and drilling at 1,675 feet. The Hunter Co.'s No. 1 S. J. Moats, Section 25-12-15, about 1 mile west of its No. 1 De Soto Corp., recently completed as a 12,000,000-foot gasser, has spudded in and arranging to set surface casing. The next week should determine the chances of Herman L. Brown's No. 1 Monstead, Section 10-17-4w, on the Grambling structure, southwestern Lincoln Parish, as a producer of oil or gas from the Glen Rose horizon. The test has passed out of anhydrites and coring at 5,230 feet.

Aside from the Rodessa completions, this district reported two gas wells and two dry holes. The Leonard Co.'s No. 2-G Muslow, Section 17-20-15, Caddo Parish, is a 300,000-foot gasser from 799 feet, and in the Ouachita Parish area of the Monroe Field, Arkansas-Louisiana Gas Co.'s No. 12 Rea Green, Section 3-18-4e, gauged 1,500,000 feet, 715 pounds rock pressure from 2,170 feet. A shallow test in Bossier Parish, R. L. Skidmore's No. 1 Davis, Section 12-18-13, was abandoned as dry at 2,592 feet. A past hot spot in the eastern part of the Zwolle Field, Sabine Parish, reported a failure, Hunter Co.'s No. 17 Sabine Lumber Co., Section 7-7-11, encountered salt water and was abandoned at 2,910 feet. There has been very little drilling in the Zwolle area during the past year and indications are that the production from the chalk horizon has just about been depleted.

Revival in Arkansas

This district is showing an up trend from the past six months in drilling activity with 15 wildcats active in nine counties, a number of them deep tests. In addition there is much geophysical work being carried on in the southern tier of counties followed by active leasing. One of the hot spots, based on a geophysical high, is the area southwest of Magnolia in Columbia County. The Standard Oil Co. of Louisiana is reported to have acquired a block of approximately 4,500 acres centering around Section 19-18-21, and other major companies, including the Shell, Ohio, Magnolia, Sun and Tide Water, are reported to have checkerboarded leases in that vicinity and southwest into Lafayette and Miller Counties.

Three new locations were staked in this district, two in the Miller County Field area and one in the Smackover Field of Union Parish. The lone completion, McFaddin-Houseman and others' No. 1 Bovine Farms, Section 1-18-8, Ashley County, was junked with some drill stem in the hole at 2,800 feet.

An interesting test in the southern part of Columbia County has resumed drilling after a shutdown at 960 feet since the latter part of April of this year. Southern States Gas Co.'s No. 1 Piney Woods Lumber Co., Section 10-20-22, has been refinanced and drilling ahead at 1,300 feet. The test is located on a 4,200-acre block and the original contract calls for a 3,500-foot hole.

Southwest Texas District

By GEORGE WEBER

ACTIVITY IN LAREDO DISTRICT IS CENTERING IN LOMA NOVIA

SAN ANTONIO, Tex., Oct. 7.—Drilling operations held steadily throughout most of Southwest Texas, with greatest activity again showing in Laredo district, centering principally in the Loma Novia, O'Hern and Seven Sisters Fields. Individual wildcats in Bexar, Gonzales, Starr and Duval Counties are attracting attention.

Wildcat and proven field operations are being carried on throughout Duval County. Loma Novia saw an active week resulting in six completions and eight new locations. In addition, there are more than 30 drilling wells and locations. Hamill, Smith and Ogden accounted for half of the completions in Loma Novia. No. 9 Hubbard was completed for 30 bbls. per hour from sand at 2,612-28 feet. No. 12 Hubbard made 35 bbls. per hour from sand at 2,610-26 feet. The initial on No. 24 Hubbard was 16 bbls. per hour on a one-half inch choke at 2,632-45 feet. These wells are all in Survey 77. The company has under lease the entire west half of the survey, providing for 32 locations. Rodney DeLange's No. 2 B.C.C. in Survey 76 was completed for 16 bbls. per hour through a one-half inch choke from sand at 2,691-2,712 feet. Steiren Oil Co. completed a 250-bbl. well in No. 6 Wright in Survey 72. Texas Co.'s No. 8 Wendt in Survey 68 showed an initial of 30 bbls. per hour through a three-quarters inch choke from 2,619 feet, in Survey 68.

An increase in drilling is foreseen in the steady rise in the number of new locations each week: Frank Gravis' No. 1 Eckdahl in Survey 78, Alpha Oil Co.'s No. 1 Hubbard in Survey 69, Steiren Oil Co.'s No. 8 Wright in Survey 72, Hamill, Smith and Ogden's Nos. 3 and 25 Hubbard in Survey 77, and Texas Co.'s Nos. 5, 6 and 7 Hahl, all in Survey 78.

Seven Sisters Field

The Seven Sisters Field in northern Duval County ranked next with three new locations and three completions. Mid-Continent Petroleum Co. completed No. 1 Serna, Jr., for 25 bbls. per hour from sand at 2,482 feet. Santa Clara Oil Co.'s No. 14 Wood-Welder was completed from sand at 2,486-96 feet, but no gauge has been taken. Humble Oil & Refining Co.'s No. 2 T. D. Smith made 33½ bbls. per hour on a three-quarters inch choke with sand at 2,468-78 feet. Santa Clara Oil Co. announced its next well as No. 15 Wood-Welder in Survey 385. Dulce Oil Co. is drilling on No. 3 Serna. Humble Oil & Refining Co. will carry operations to its new northwestern outpost well, No. 1 Badgley, in Survey 307.

Wildcat completions continued discovery of production near Eagle Hill by Marzo Oil Co. two weeks ago, being followed by completion of Sun Oil Co. and Simms Co.s' No. 1 Worden & Draught, a wildcat southeast of the S.R.C. Pool. The well was brought in making 6 bbls. per hour on a half-inch choke with a casing pressure of 550 pounds and 65 pounds on the tubing. Production is in a different sand from the S.R.C. Pool. Casing was set at 1,581 feet.

Production was extended in Survey 100, northwest of Government Wells Field by completion of Magnolia Petroleum Co.'s No. 2 D.C.R.C., making 45 bbls. on the pump from sand at 1,959-73 feet.

The Driscol Field received a gas well in Continental Oil Co.'s No. 6-A Sevier (Driscol), Section 447, it making 50 bbls. with the ratio of oil to gas increasing.

Government Wells and Sarnosa each had one new location, and one wildcat in the county was abandoned.

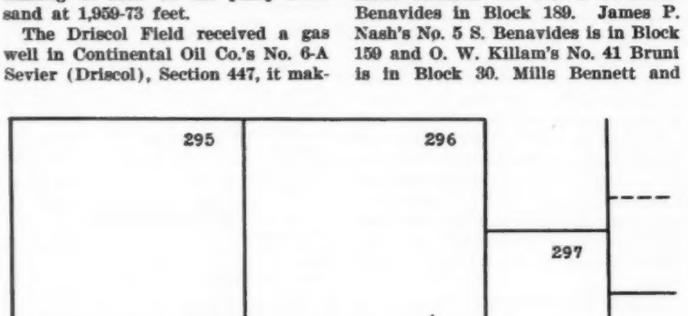
Webb County

In Webb County two producers were added to the O'Hern Field. Jack & Jim Oil Co.'s No. 1 S. Benavides was brought in for an initial of 200 bbls. with sand at 2,754-60 ft. Magnolia Petroleum Co. got a 200-bbl. well in No. 9 G. Benavides, tested on a 5-16-inch choke with tubing pressure of 190 pounds and casing pressure of 370 pounds. Mills Bennett's No. 1 M. Lopez, Lopez Field, was completed for 200 bbls., and O. W. Killam's No. 40 Bruni, wildcat in Lot 32, Block 10, was abandoned at 3,607 feet.

New locations numbered nine, the O'Hern Field getting five, Lopez and Laurel Field one each, with two wildcats. Magnolia Petroleum Co. announced location of Nos. 15 and 16 Brennan-Benavides in Blocks 153 and 286 respectively. J. J. O'Hern has made location for No. 2 Brennan-Benavides in Block 189. James P. Nash's No. 5 S. Benavides is in Block 159 and O. W. Killam's No. 41 Bruni is in Block 30. Mills Bennett and South Texas announced locations in Lopez and Laurel following completion and abandonment of their preceding wells. One wildcat, O. W. Killam's No. 1 Ortiz is creating interest due as the first on the 73,000-acre lease recently taken by Killam, northwest to northeast of Laredo. The first test is 200 feet from the southwest line, and 2,350 feet southwest of the road in Porcion 17. The other wildcat is French Oil Co.'s No. 1 Juan Guerra in Survey 485.

An upturn in development in Las Escobas Field, Zapata County, is seen in completion of Texas Co.'s No. 51 Whitehead for 30 bbls., and announcement of three locations: Texas Co.'s No. 77 Whitehead, Reliable Oil Co.'s No. 5 Haynes, and Clover Oil & Gas Co. and James P. Nash's No. 1 Haynes.

In Starr County interest is centered on the old Nix No. 1 S.C.C.C. well taken over by T. K. Irwin and associates of Dallas. It was reported abandoned, and then announcement of Schlumberger tests showing six sands revived interest. The hole was plugged back to 1,853 feet and sidetracked. Total depth was 2,060 feet and coring one sand.



Sun and Simms Oil Companies' No. 2 Worden-Draught, 1½ miles southwest of S. R. Pool, in Duval County, Southwest Texas

Rio Grande Valley

Operations in the Rio Grande Valley revived with three completions in the Samfordyce Field. H. J. Porter's No. 1 Garcia Land & Cattle Co. was brought in for a 72-bbl. well extending production 2,000 feet northwest. On the east Harrison and D. D. Oil Co.'s No. 4 Lula George was completed for a 40-bbl. well and a 300-foot extension. Rogers Oil & Gas Co.'s No. 2-B Guerra, an inside well, was completed at 2,777 feet, but no gauge was made.

One location was made, Gulf States' No. 1 Delta Orchards, 1⅛ miles south of No. 1 Engleman, a gasser brought in by Gulf States several weeks ago in an unsuccessful attempt to make a producer. The new test is northeast of Edinburgh in Hidalgo County.

In the Mercedes Field, eastern Hidalgo County, Union Sulphur Co.'s No. 4 American Rio Grande was abandoned after making salt water in all of the sands tested. Completion of No. 5 is being attempted.

Plymouth

The third sand in the Plymouth Field of San Patricio County was brought into production by Magnolia Petroleum Co.'s No. 2 Corpus Christi Bank. It made 126 bbls. in 16 hours through an eighth-inch choke, with tubing pressure running 725 pounds. Plymouth Oil Co. and Heep Oil Corp. each completed a well, and two locations were made.

Much interest is being evinced in Mid-Tex Production Co.'s No. 1 Walker, Bexar County wildcat, about 9 miles north of San Antonio. It hit top of the Travis peak at 2,025 feet, regarded as a good indication, as the formation was not expected until about 2,300 feet. From 2,095-2,100 feet the well had a good show of oil and gas. The hole is being underreamed from 1,935 feet to the bottom, 2,100 feet, to lower the casing.

The Historic Sites and Monuments Board of Canada is considering the erection of a monument to mark the site of the first oil well in Canada, put down by J. H. Williams at Oil Springs in 1858.

Eastern Field Report

SIXTEEN WELLS COMPLETED IN LOWER EASTERN DISTRICT

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Oct. 7. — Sixteen wells were completed in the lower Eastern fields, eight gas wells and eight producers, with an initial production of 115 bbls. In addition there were seven dry holes. No new deep tests reached their horizons in West Virginia. In Southeast Ohio there were two fair gas wells.

SOUTHEAST OHIO

The best well in Southeast Ohio was in Knox County. In Harrison Township, Lot 11, Harry Perkins and others completed a test on the Ward Lepley farm in the Clinton sand with 3,000,000 feet a day. It is about 1,000 feet north of the New Castle-Gambier Pike. In Butler Township, Knox County, Ohio Fuel Gas Co. completed a second test on the Harold Scott farm in Lot 20, in the Clinton sand, with 1,250,000 feet a day.

In Athens County, near Jerseyville, in Section 29, Lodi Township, A. D. Townsend and others drilled on the Emma Angel farm through the Second grit to 1,568 feet. It was dry, but there was a showing of about 1 bbl. in the First grit at 1,400 feet.

In Holmes County, S. J. Bell and others completed a gas well on the Cliff Craig farm, Lot 8, Mechanic Township, in the Berea grit at 820 feet, gauging 140,000 feet a day with no oil.

In Licking County, McClay Brothers completed a second test on the Melvin S. McKee farm in Section 17, Fallsbury Township, in the Clinton sand at 2,973 feet. It produced 10 bbls. the first day after shot.

In Medina County, Oko Oil & Gas Co. completed No. 40 on the Sanford and Watson lease, Tract 10, Lot 3, Chatham Township, in the Berea grit at 410 feet. It produced 1 bbl. the first day after shot. In this township, Tract 15, Lot 13, E. R. Edson & Son Co. completed No. 66 on the Ed G. Miller farm in the Berea grit at 486 feet. It produced 4 bbls. the first day after shot. On the M. A. and Eva Franks lease in this township, Tract 16, Lot 20, same operators drilled No. 42 through the Berea grit to 640 feet. It was dry.

In Washington County, Emmet Williams and others completed a test on the Charles Lee farm in the northwest part of Section 31, Wesley Township, drilled in the Maxon sand and gauging 140,000 feet a day. In this township, NE Section 2, W. S. Harris completed a test on the Samuel Knox farm through the Maxon sand and it was dry. In SW Section 27, Newport Township, G. T. Gale and others completed a test on the Gale heirs farm in the First Cow Run sand at 420 feet. It produced 2 bbls. the first day, naturally.

SOUTHWEST PENNSYLVANIA

One well was completed in Southwest Pennsylvania. In Morris Township, Greene County, Penn Ohio Oil Co. completed No. 2 on the Harry Clutter farm, 20 feet in the Injun sand, as a gas well with 760,000 feet a day. In this township, Carnegie Natural Gas Co. is drilling on the Lucinda Hunt farm at 1,162 feet. Pittsburgh Coal was at 832 feet.

In Allegheny County, E. A. Bream & Co. are drilling on the James Coyne farm in Hampton Township at 150 feet. In Findley Township, Ed Olds & Co. are drilling on the William Strouss farm.

In Amwell Township, Washington County, Carnegie Natural Gas Co. is down 1,065 feet in the second test on the C. W. Dunn farm. Pittsburgh Coal was at 878 feet. Union Gasoline & Oil Corp. is at 750 feet on the Charles VanKirk farm. On the Ensley Kelsey farm, Wise Oil & Gas Co. is drilling in the Fifth sand in No. 2. Top of the Thirty-foot sand was at 2,792 feet, with about 300,000 feet a day of gas at 2,816 feet. This blew down to about 200,000 feet.

In South Franklin Township, Carnegie Natural Gas Co. has rig on the John Dodd farm. George Bungard & Co. is drilling at 700 feet on the Ira Baker farm. E. H. and J. B. Tague have reached 760 feet on the Hiram McClain farm. Pittsburgh Coal was at 557 feet. New Oil & Gas Co. is still fishing at 850 feet on the John Ramsey farm. On the W. Dodd farm it reached 850 feet and shut down. Pittsburgh Coal was at 742 feet. Furman Nuss & Co. is drilling at 1,065 feet in the second test on the Jason Buchanan farm.

In Amwell Township, Washington County, Moore, Orrill & Co. are down 333 feet on the C. E. Hackney farm. In West Bethlehem Township, H. D. Freeland & Co. resumed drilling deeper on the Winfield McCarty farm and reached 2,620 feet.

In Center district, Greene County, Rutan Oil Co. has reached 2,350 feet on the C. T. Harvey farm. In Richhill Township, Wasmuth & Callahan started drilling deeper No. 3 on the Daniel Goodwin heirs farm after the gas blew down and the hole filled with water. The present depth is 1,700 feet. Peoples Natural Gas Co. reached 2,848 feet in drilling down the well on the Kinsey Fox farm. The Gantz sand was at 2,738-74 feet with 70,000 feet of gas at 2,751 feet. Myers, Hoskinson are moving in tools on the Lucinda Wright farm.

Deep Tests

In Beaver County, John Galey and others have reached 4,334 feet in the deep test on the William Graham farm on Rush Run in South Beaver Township. Drilling has been retarded with slight caves and one or two heavy pockets of gas.

In Crawford County, Carnegie Natural Gas Co. is drilling at 3,000 feet on the Gertrude Scott farm in South Shenango Township, well in Cornifer ous lime and progressing smoothly.

WEST VIRGINIA

There were four producers completed in West Virginia. In Clay County, Virginian Gasoline & Oil Corp. completed No. 29 on the Brown, Swann & Goshorn and Geary farm lease on Summers Fork of Laurel Creek in Henry district. It reached the pay in the Injun sand at 2,076 feet and is showing for about 35 bbls. a day. It is at the southwest edge of the pool.

In Gilmer County, on Trace Fork in DeKalb district, Coleman & Hamilton completed a test on the A. Gainer heirs farm in the Injun sand good for 25 to 30 bbls. a day.

In Marion County, Victor E. Tennant completed a test on the J. T. Talkington farm in Lincoln district in the Big Injun sand at 2,029 feet. It filled 600 feet in two hours and will probably start producing at 25 bbls. a day.

In Ritchie County, C. H. Rockwell and John Trexler and others completed a second test on the William C. Butcher farm in Clay district, in the Injun sand, and it will make an 8-bbl. pumper.

Deep Tests

No deep test reached the Oriskany sand nor were any new locations reported. In Loudin district, Kanawha County, Winifrede Co. has reached 1,582 feet on its own property. Godfrey L. Cabot, Inc., has reached 1,713 feet on the A. F. Vorholt farm and has a rig on the Kanawha Land Co. for a second test. In Union district, Kanawha County, this operator is down 325 feet on the Alberta Putney farm.

In Jefferson district, Benedum & Trees shut down their deep test on the Joseph Hill farm at 6,105 feet waiting on a wire line. In Poca district, W. O. Zeibold and others shut down on the D. A. Griffith farm at 1,738 feet, testing.

In Malden district, Godfrey L. Cabot, Inc., is fishing for tools at 645 feet on the W. D. Lewis farm, and is building road to location on the N. B. Tompkins farm. Columbian Carbon Co. is rigging up on the M. J. Dearing heirs farm.

In Elk district, this company has started drilling the second test on the G. and D. Copenhaver farm and is down 362 feet. It is also building rig on the W. L. Burdette farm. On the Mary C. Wingfield farm, Benedum & Trees resumed drilling and reached 4,818 feet.

Other Operations

In Boone County, Pure Oil Co. has made two more locations on the Federal Coal Co. tract in Sherman district. At No. 77 rig is being built. No. 76 is drilling at 2,505 feet. The test on the Lafollette, Robson & Prichard tract B & C is drilling at 845 feet. On the Robson & Prichard No. 9 this company is down 2,015 feet. No. 4 T. L. Broun, being drilled by this company, is at 1,616 feet.

In Calhoun County, McCall Drilling Co. is building a rig on the D. R. Kerby farm in Lee district. Starcher & Richards have made a location on the C. U. King farm and have one on the W. T. Campbell farm. Kingsbury & Dallman have a rig on the Homer and Lizzie Lynch farm. Southeastern Gas Co. is drilling at 1,200 feet on the William Little farm. In Washington district, K. M. Hunt and others have material on the Vivettie Brannon farm. Massey & Jarvis are drilling at 1,500 feet on the Fred Valentine farm. In Sherman district, F. F. McIntosh is down 1,500 feet on the No. 3 W. E. Stump.

In Clay County, Elk River Gas Co. is drilling on the M. and J. Neal farm at 1,660 feet and on the Ruben Neal farm has reached 1,918 feet. Both are in Pleasant district.

In Fayette County, Godfrey L. Cabot, Inc., has started drilling No. 6 on the Kanawha Cauley Coal & Coke Co. lease in Falls district.

In Gilmer County, V. M. Stewart and others have started drilling on the C. F. Stalnaker farm in DeKalb district. In Center district, West Virginia Utilities Co. is fishing the tools at 725 feet on the John J. Gerwig lease.

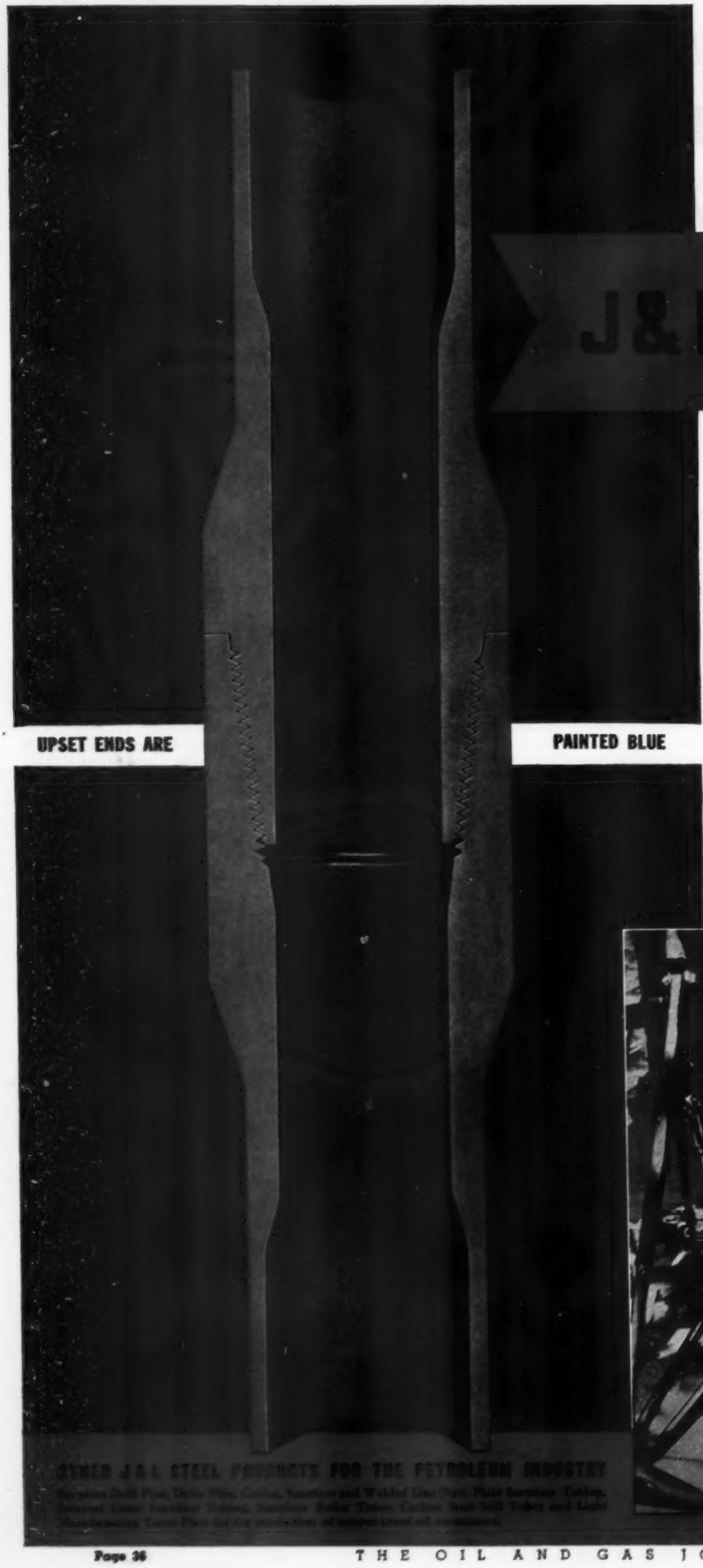
In Lewis County, McCall Drilling Co. is down 1,825 feet on the A. B. Campbell test in Court House district. In Webster district, Marshall County, B. L. Frye is spudding on the Carnelius Dorsey farm.

In Monongalia County, Carnegie Natural Gas Co. found the lower sands on the C. H. Brand farm in Cass district dry and will plug back to the Injun sand gas at 2,180 feet and shoot. Total depth was 3,295 feet. This company is building rig on the Elmus Brand farm.

In Raleigh County, Godfrey L. Cabot, Inc., reached 3,500 feet in No. 9 on the Beaver Coal Co. lease in Slab Fork district and will plug it back to the Maxon sand and test the gas. A location has been made for No. 10.

In Ritchie County, G. A. Smith and others have a rig on the Brady Cronin farm in Clay district. In Murphy district, W. H. Mosser and others have a location for a second test on the G. L. Goff farm. Mosser & Frederick have a rig on the Susan Goff farm. In Grant district, Swingle Brothers have started drilling on the Ellen Burge farm.

In Wetzel County, C. B. Lewis and others started drilling on the J. P. Morgan farm in Magnolia district and shut down at 300 feet fishing. In Wood County, Charles S. and Lillian Smith have a machine on location for No. 10 on the Tim McAtee farm in Union district.



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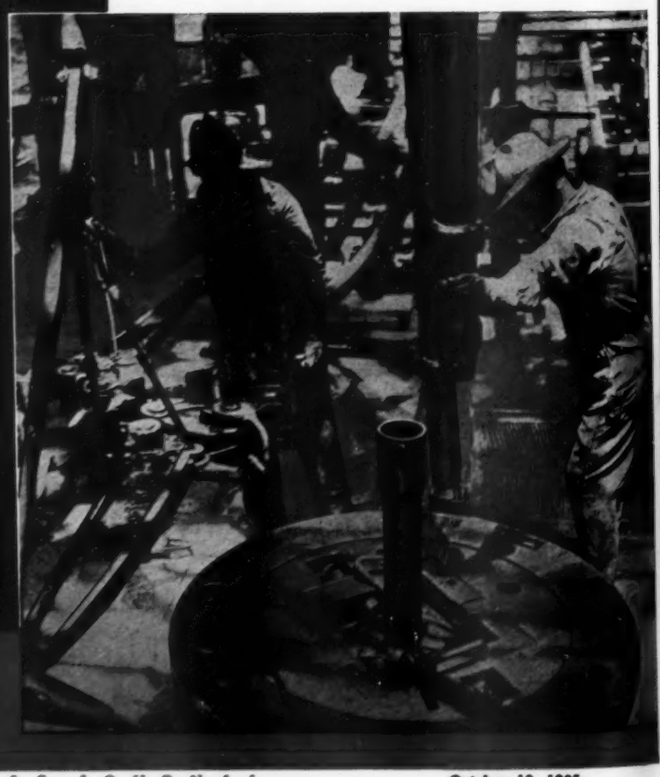

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1

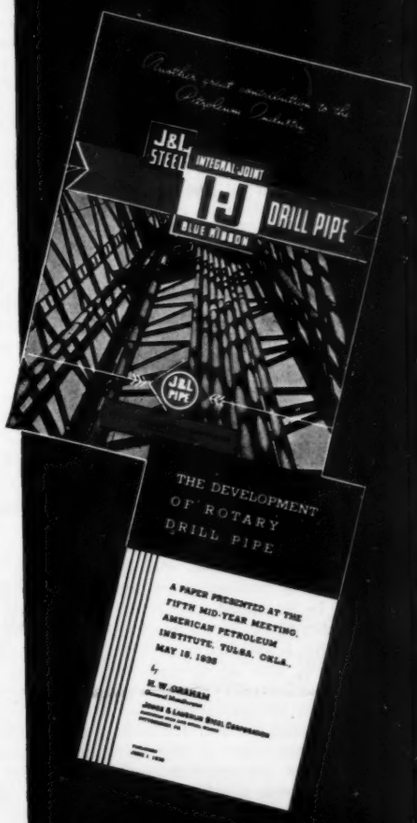
It is a fact now generally recognized that the threaded joints between drill pipe and tool joints are a frequent and dangerous source of twist-offs. *The elimination of these joints, then, will mean fewer failures.* Reduction of localized excess ("parasitic") weight, increased mud velocity, reduced turbulence, and improved physical qualities of the drill pipe itself are other factors that tend to eliminate failures.

2

The expense of fishing for a broken stem, the loss of time and all the other standby losses resulting from failures are exceedingly important items in the cost of drilling. With the new J & L Integral-Joint Blue Ribbon Drill Pipe, all these costs are substantially reduced because the number of failures is reduced.

3

By cutting down failures and thereby reducing standby time, J & L Integral-Joint Blue Ribbon Drill Pipe materially increases the speed of drilling. Increased mud velocity is also an important factor in reducing drilling time. Increased speed of drilling means lower cost—and lower cost means greater potential profit from drilling operations.



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For complete details of the many advantages of J & L Integral-Joint Drill Pipe, including its record in the oil fields, send for booklet just off the press. Available also, without charge, is a reprint of a paper entitled "The Development of Rotary Drill Pipe," presented by H. W. Graham, General Metallurgist, Jones & Laughlin Steel Corporation, at the May 11, 1935 meeting of the American Petroleum Institute. Send for your copies of the bulletin and the Graham paper today.

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PITTSBURGH, PENNSYLVANIA

Texas and Louisiana Gulf

By
F. L. SINGLETON

OUTPOST IN ANAHUAC FIELD IS NEARING CRITICAL DEPTH

HOUSTON, Tex., Oct. 5.—While the outcome of a scheduled production test on a wildcat test in Jefferson County was being awaited, attention on the Gulf Coast was again shifted to the Anahuac Field, Chambers County, where Woodley Petroleum Co.'s No. 1 Blanke, an outpost test located 1½ miles northeast of production, is nearing a critical depth. Late in the week it was coring in shale below 6,740 feet and is checking considerably lower than Mason and McCarthy's No. 1 White to the southeast. The Discorbis was topped at 6,260 feet and the Heterostegina at 6,620 feet. On the Discorbis it is 360 feet lower, while the top of the Heterostegina places it 110 feet structurally lower. With this test running low and the showing of Gulf Production Co.'s No. 1 Knowles, which is drilling in shale below 7,780 feet without any showings of oil and gas, the prospects of any sizeable extension being made in this direction seems very remote at this time.

Three Completions

There were three completions and two locations recorded for the field during the week. All of the completions were made by the Humble Oil & Refining Co. and one extended the field one-quarter of a mile southwest. The extension test was No. 6 Middleton in Section 64, which made 21 bbls. per hour through a one-quarter inch choke with tubing pressure 800 pounds. It was drilled into salt water sand at 7,144 feet and was completed at a plugged depth of 7,128 feet, consequently production is not expected to be extended much further in this direction. The other producers were No. 5 Middleton, in Section 58, which was completed at 7,085 feet for an initial production of 26 bbls. per hour through a one-quarter inch choke, and No. 4 J. J. Clark, in Section 57, that made 29 bbls. per hour through a one-quarter inch choke from a total depth of 7,085 feet.

South Gulf Oil Co. made location for No. 1 J. T. White, another outpost test located 1,563 feet from the east line and 466 feet from the south line of a 1,476-acre tract in the J. McGahey Survey. It is about 1½ miles north and slightly west of Mason and McCarthy's No. 1 White in the north end of the field. On the east side of the field in Section 59, Humble Oil & Refining Co. has cemented surface casing on its No. 1-B Broussard, located 466 feet south of the north line and 466 feet east of the west line of the section. This is the first test to be drilled in the section.

In the central part of Jefferson County, 9⅝-inch casing has been cemented at 8,210 feet in Sun Oil Co.'s No. 1 Hebert and Broussard, a prospective pool opener, located in the B. Blackman Survey, and it is due to be tested during the week. Sand showing oil and gas was cored from 8,251-67 feet, and it is bottomed in the Marginulina horizon at 8,282 feet.

Matagorda County

At the Bay City Field, Matagorda County, Skelly Oil Co. is preparing to make a third production test at its No. 3-B Cobb after being plugged back the second time to 7,635 feet. It was originally drilled to 8,708 feet, where it tested oil and salt water and was plugged back to 7,890 feet, and also showed oil and salt water on a drill stem test. Since the test has cored five different sands, all being in the Frio horizon and which showed good saturation, it is the opinion of many that a faulty cement job may have occurred. It is located northeast of the discovery well in the M. Cummins Survey, which is being deepened to 7,500 feet. It had been producing distillate from a plugged back depth of 7,076 feet.

Harris County

The Sheldon prospect, located east of Houston in Harris County, received two wildcat tests, both being made by A. C. Hill for his No. 1-A and 1-B Swilley, located in the Victor Blanco Survey. No. 1-A is located 5,426 varas east of the west line and 1,960 varas north of the south line of the survey. No. 1-B Swilley is 6,141 varas east of the west line and 1,960 varas north of the south line of the survey in the center of a 200-acre tract. This area has been the scene of much leasing and geophysical work for the past months and several major companies, including Texas Co., Tide Water Oil Co., California Co. and others, are reported to have purchased protection acreage.

Brazoria County

In the Hastings Field, northeastern Brazoria County, Humble Oil & Refining Co. is preparing to complete its No. 1 Cannon, which extended the field 2,000 feet east the past week when it tested 49 stands of oil on a 20-minute drill stem test from 5,731-88 feet. It was drilled to 6,100 feet and 7-inch casing was cemented at 5,719 feet. Due north, the company has made location for No. 2 Cannon, located 330 feet out of the northeast corner of the same 60-acre tract. Stanolind Oil & Gas Co. completed its No. 5 Gilbert Sneed at 6,090 feet for an initial production of 500 bbls. per day through a one-quarter inch choke and made location for No. 1 Whiton in the A.C.H.&B. Survey No. 2.

Due west in the Manvel Field, Sinclair Prairie Oil Co. made location for No. 1 A. Michaelson in Block 19, Section 24, H.T.&B. Survey. It is an interesting test located east of production. In the south end of the field, Windsor Oil Co. completed its No. 3 Colby at 5,161 feet for an initial production of 80 bbls. in 15 hours through a one-eighth inch choke with tubing pressure 1,600 pounds and casing pressure 1,775 pounds.

In Placedo Field

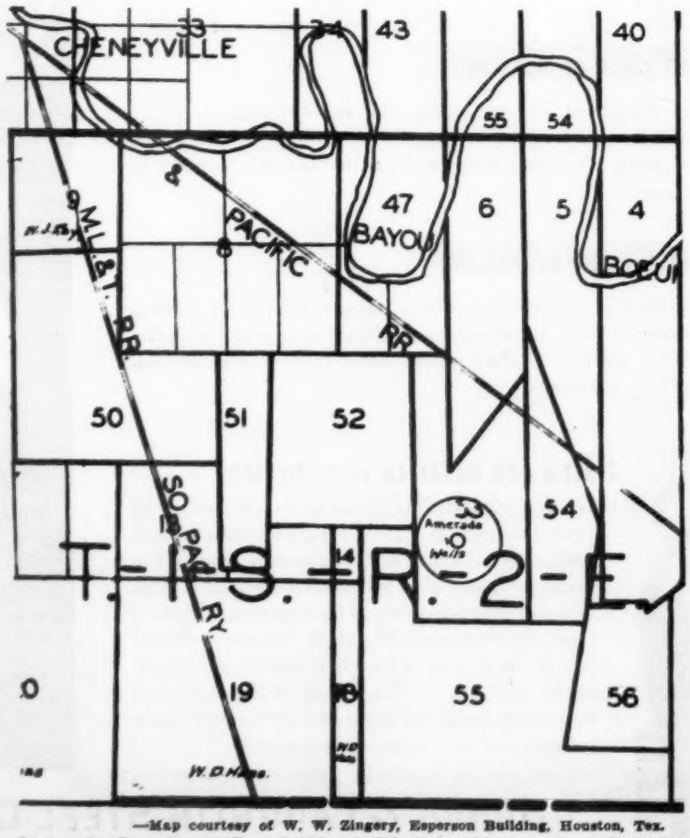
The Westgate Oil Co., in the Placedo Field, Victoria County, made location for No. 1 Henderson and Pickering, situated 330 feet each way out of the southwest corner of Lot 76 in the S.A.&M.G. Survey. The location adjoins the Placedo townsite and is the first of six tests to be drilled by the company. E. L. Smith and Gulf Production Co. are moving in a rig for No. 1 Boehm, located 330 feet each way out of the northeast corner of Lot 8 in the S.A.&M.G. Survey. Two wells are preparing to test the 4,700-foot sand, Barnsdall Oil Co. and Felmont Oil Co.'s No. 1 Pickering cored sand from 4,771-81 feet and have cemented 6⅝-inch casing at 4,771 feet, preparatory to testing. It is a northeast offset to No. 1 Gray in the S.A.&M.G. Survey. E. L. Smith Oil Co.'s No. 1 S. E. Wright cored sand from 4,750-70 feet, the total depth, and is now swabbing.

Discovery Well Performs

Shell Petroleum Corp.'s No. 1 Coombs, the discovery well of the Mauritz Field in Jackson County, was opened up for the first time after being shut in for several weeks and flowed 452 bbls. of pipe line oil in 22½ hours on various chokes. On the last 18 hours it flowed through a 13/64-inch choke, with tubing pressure 890 pounds and casing pressure 600 pounds. There was no evidence of salt water. The only location made in the field since its discovery is Smith and McDannald's No. 1 Mauritz, located on "farmed" out acreage held by the Pure Oil Co.

Southwest of the Coletto Creek Field, Victoria County, Texas Co. is preparing to test its No. 1 J. J. Warden, a wildcat test located in the Edward McDonough league, which is bottomed in sidetracked hole at 4,494 feet with 7-inch casing cemented at 4,483 feet. This is the same sand which tested two joints of mud with 235 pounds of pressure on a drill stem test several weeks ago. The hole was drilled to 5,629 feet and after an electrical coring test was run it was

(Continued on Next Page)



—Map courtesy of W. W. Zingery, Esperson Building, Houston, Tex.

Amerada Petroleum Corp.'s No. 1 Wells, wildcat test in Rapides Parish, Louisiana

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Among Gulf Coast Drilling Contractors

H. J. Porter has one rig running for E. L. Smith Oil Co. at Placedo. He is moving in rig for himself on Garcia Land & Livestock tract at Samfordyce.

Rutherford Drilling Co. has completed Skelly Oil Co.'s No. 5 Seaberry in the Samfordyce Field and is setting casing on No. 4 Seaberry.

Talbot Drilling Co. has one rig running for Ovalline and Bellnoski on Sterrick Survey, 6 miles north of Conroe Field, drilling at 4,320 feet in sticky shale.

Mandeville & Thompson, drilling contractors and producers, are opening offices at 923 Shell Building, Houston. A. W. (Tommy) Thompson, who has been in the Gulf Coast for the past year and a half, will be in charge. Mr. Mandeville will remain in charge of the Oklahoma office in Chickasha.

J. C. Means and M. C. McGhee have bought adjoining tracts of land in Riverside Terrace, Houston, and are planning to build homes in the near future.

Harvey & Rush have cemented surface casing on a wildcat test for Turnbull & Irwin on the Cheek prospect in Liberty County.

At Skelly Oil Co.'s No. 3-B Cobb, Bay City, northern Matagorda County. Left to right: M. B. Conroy, driller; P. R. Rutherford, drilling contractor; C. P. Graham, production superintendent, Skelly Oil Co.; M. M. Lovett, derrick man; I. S. McPeak, Roy Biggs, and T. S. Vaughn, members of the drilling crew

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Texas and Louisiana Gulf

(Continued from Preceding Page)

plugged back and sidetracked at 4,264 feet.

Prospective Pool Opener

Another wildcat test which is a prospective pool opener is Sterling Oil & Refining Co.'s No. 1 Frank Janik, located in the extreme northeastern part of Wharton County in the Jonathan Scott Survey. It was drilled to a total depth of 8,667 feet and after an electrical coring test was made which showed sand with possibilities of production from 7,867-79 feet, the operators started running 5-inch casing to be cemented above the sand. The test is situated on a block of acreage that was "farmed" out by the Tide Water Oil Co. The upper 7 feet of the sand section showed 14 ohms and the bottom 5 feet showed 14 ohms and 85 millivolts.

Southeast of the above test in the Pickett Ridge Field, Texas Co. is building derrick for 4-A Pierce, located 1,980 feet south, 32 degrees east from No. 3-A Pierce in the H.&G.N. Survey No. 38.

Five miles northwest of Port Arthur in Joseph Grigsby Survey, Tatum and Pendergrass have rigged up for No. 1 B. W. Ownes, a wildcat test located 160 feet east of the west line and 225 feet south of the north line of lot No. 3, Block 9, Range 9, of the Port Arthur Land Co. subdivision.

Important Extension

Two important extensions were marked up for the Gillis Field, Calcasieu Parish, by the completion of two tests by the Fohs Oil Co. Its No. 1 Airhart, which last week cored a deep gas sand at 9,246 feet that blew the drill stem up the hole causing it to stick, was plugged back to 7,060 feet and was completed through perforated casing for an initial production of 24 bbls. of fluid per hour of which 20 per cent was wash water. It was still cleaning itself late in the week and it will be a few days before an accurate gauge can be made of its output. It is one-quarter of a mile due west of the company's No. 1 Wasey in Section 14-9s-8w. Approximately the same distance southeast, No. 6 Castle topped the oil and gas sand at 6,976 feet and was completed at a total depth of 7,102 feet for an initial production of 30 bbls. per day through a one-quarter inch choke with tubing pressure 1,100 pounds. There was no gauge on the casing. Location is in Section 13-9s-8w.

The Gulf Coast received its fourth 10,000-foot test when Superior Oil Producing Co.'s No. 1 Duplanter Community, located in East Baton Rouge Parish, cored sand and shale below 10,280 feet. Location is in Section 65-7s-1e.

Hedge Against Inflation

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HOUSTON, TEX. GULF COAST

Michigan Field Report

NEW PRODUCTION RECORD IN CENTRAL MICHIGAN DISTRICT

By
PAUL A. ELLIOTT

MUSKEGON, Mich., Oct. 7.—All previous Michigan crude oil production records were broken during the past week when September closed with a high monthly total of 1,490,000 bbls., a high daily average of 52,500 bbls. The output for the first nine months of 1935 thereby was boosted to 11,190,000 bbls., or about 600,000 bbls. more than the 1934 total of 10,600,000 bbls., also a previous annual record.

Estimated daily runs as of October 1 were increased to 55,350 bbls. in view of continued new and large completions in the Crystal Township, Montcalm County, Field, expected to pass the Porter Township Pool of Midland County this month in actual production.

The new and higher estimated daily output was announced by the Michigan Oil Producers Committee which at the same time reduced the pressure production potential of the Crystal Field from 46,694 bbls. as of September 1 to 29,852 bbls. daily as of October 1. It was explained in a statement by James C. Graves, chairman, that the new potential was computed on the basis of "the actual amount which each lease can safely produce as pipe line oil." By safe production Mr. Graves referred to the water menace already recognized by the operators flowing their Crystal wells against heavy back pressure from the time of completion.

Urges Curtailment

Chairman Graves also urged that new work in the Crystal area be deferred if possible where it would be likely to have a detrimental effect upon the crude market by added production.

"At the present time the crude oil market in Michigan as relating to production is in very good proportion," he said, predicting a considerable increase in Crystal during October and November, due to 27 wells drilling on proved leases.

In all other fields except Crystal, proration has been lifted and producers allowed to take the full potential daily from their wells. Crystal runs for October, based on a proration schedule of 75 per cent allowable from each well over a minimum of 200 bbls., were set at 23,201 bbls. a day, or about 2,000 bbls. more than the estimated Porter Township output of 21,172 bbls. daily.

Identical potentials and estimated runs of eight other producing areas in the state as of October 1 were announced as follows: Greendale-Chippewa, 3,239 bbls.; Yost, 2,432; Vernon-Leaton, 2,167; Ogemaw, 2,117; Home-Montcalm, 372; Muskegon-Oceana, 252; Beaverton, 212, and Saginaw-Birch Run, 186 bbls. The number of producing oil wells by fields reached a total of 1,098 as of October 1 in the following order: Porter, 329; Greendale-Chippewa, 299; Muskegon-Oceana, 123; Saginaw-Birch Run, 95; Vernon-Leaton, 93; Ogemaw, 80; Crystal-Montcalm, 48; Yost, 22; Home-Montcalm, 6, and Beaverton, 3. The total compared with 1,085 on September 1.

The aggregate pressure production potential was computed at 62,001 bbls. compared with 86,993 bbls. as of September 1. Estimated daily runs of 55,350 bbls. compared with 48,774 bbls. one month before on September 1.

Actual production for the week ended September 28 was as follows: Porter-Yost, 24,038 bbls.; Crystal and Home-Montcalm, 20,186; Greendale-Chippewa, 3,435; Vernon-Leaton, 2,445; Ogemaw, 1,928; Muskegon-Oceana, 252, and Saginaw-Birch Run, 186 bbls.

Other Completions

One factor which had not been considered in computing the monthly estimates for October, but which proved one of outstanding new developments of the past week was the new major sized upper Traverse producer encountered in Ogemaw County.

Strange & Fortney's B No. 1 State, previously drilled into the upper pay sands with an estimated daily flow of 3,000 to 5,000 bbls. flowed as high as 411 bbls. an hour and for a week caused the operators extreme difficulty to keep it under control because they were unprepared for such production.

Upwards of 20,000 bbls. had been flowed into storage tanks ranging in capacity from 100 to 500 bbls., while the operators hastened to make provisions to take away the oil as they were unable to shut in the well. During several attempts to pinch in the well the pressure started to lift the casing from the hole.

The State well is located SE NE NE Section 1-21n-2e, Horton Township, Ogemaw County, about three locations northwest of a comparatively small producer in Section 6, Mills Township. The one well has more than doubled the daily output from Ogemaw County.

Both the Roosevelt Refinery, of Mount Pleasant, and the Naph-Sol Refining Co. of Muskegon started immediate extensions of their pipe line systems in the Ogemaw Field to service the new gusher.

Every available tank truck has been pressed into action to transport the crude away from the well to loading depots for shipment to Mount Pleasant, Muskegon and the Peerless Refinery at Big Rapids. It was estimated about 25,000 bbls. of oil was lost when the well ran wild after blowing itself in with unexpectedly heavy pressure from the Traverse limestone.

Two other small producers also were completed in the Dundee in Mills and West Branch Townships, Ogemaw County.

H. C. Nelson's No. 2 State of Michigan, SW SE SW Section 31-22n-3e, Churchill Township, was completed as a 95-bbl. well at a total depth of 2,616 feet. Dundee was topped at 2,457 feet.

Weber Oil Co.'s No. 1 Stella Wilcox, NE NE NE Section 34-22n-2e, West Branch Township, had 1,200 feet of oil in the hole after deepening to 2,682 feet. The well previously had produced from the upper Traverse but now will be finished as a Dundee well.

Another unexpected development of the past week aroused renewed interest in the Beaverton Township, Gladwin County, area northeast of the Porter Field where M. F. Whitehall's No. 1 Charlotte Dell test, SE SW SW Section 2-17n-2w, Beaverton Township, made about 175 bbls. daily from the Dundee, the largest initial of three producers in the field. It is located north and west of the Whitehill-Kintner discovery struck in Section 11, Beaverton Township, about a year ago.

Crystal-Montcalm

Five more successful producers in the Crystal Field added about 3,000 bbls. initial output. Four were Dundee producers and one an upper Trav-

Dawn behind a derrick in Ogemaw County, Michigan

erse well. Four were in Crystal Township and one in Ferris Township where a dry hole also was completed.

The largest new Crystal completion of the week was the Pure Oil Co.'s No. 2 H. S. and C. D. Preston, SE SE NE Section 3-10n-5w, Crystal Township, which made about 100 bbls. an hour for an estimated initial of more than 2,000 bbls. daily.

Eastern Gulf Oil Co.'s No. 2 Z. D. Rule, NE NE SW Section 2, same township ,made about 130 bbls. natural in the Dundee.

The same company's No. 1 Rule, SE NE NW Section 2, was rated a 50-bbl. Dundee pumper before acid treatment.

The Rowmor Corp.'s No. 1 John and David Husted, SW NE SW, also Section 2, Crystal Township, was estimated good for 90 bbls. a day natural in the Dundee.

Stork Oil Co. planned to complete its No. 6 G. Dickenson, SW NW SE Section 3, Crystal Township, as an upper Traverse producer when it flowed about 15 bbls. an hour for an estimated daily initial of 360 bbls.

Three other Crystal Township tests nearing completion in the Dundee included Gordon Oil Co.'s No. 2 William E. Strait, SE SE NW Section 3; Michigan Producers & Refiners, Inc., and Alvin H. Weber, trustee's No. 2 William Strait, NE NE SW Section 3, and J. W. Leonard, Jr., trustee's No. 1 J. Tow, SE NE SE Section 3.

Charles Van Keuren, trustee's No. 1 Maud Evans, NE NE NE Section 22, Crystal Township, was proceeding to test the Monroe formation after failure in the Traverse and Dundee and cementing at 3,306 feet.

Ferris-Montcalm

Daily Crude Oil Co.'s No. 2 John Flint, SW SW SE Section 35-11n-5w, Ferris Township, was rated a 110-bbl. natural well as the only successful Dundee completion in this section of the big Montcalm County field.

A. J. Gray's No. 1 Kimball, NE NE SW Section 32, Ferris Township, was dry in the Dundee and being plugged and abandoned as the farthest west extension test.

T. F. Caldwell, Inc.'s No. 1 Cora J. and J. Bailey, NE NW SW Section 33, Ferris Township, about a half mile east of the Kimball, also was being completed in the Dundee.

Two other Ferris Township tests were nearing completion as follows: Eastern Gulf Oil Co.'s No. 1 A. C. Conner, NW NW NW Section 35, and Dougherty & Markey, Inc.'s No. 1 H. Fisher, SW SW SW Section 36. Operators also were watching the Shell Petroleum Corp.'s No. 1 E. Bogert as an indication of possible further success or failure in this section of the Crystal-Ferris Field where the United Producers-Conners in Section 26 started drilling activity by its success.

Mecosta-Montcalm Gassers

Three new gas wells added more than 36,000,000 feet of open flow to the Millbrook-Hinton-Belvidere Field on the Mecosta-Montcalm County line.

Largest of the three was the Carmanson Oil & Gas Corp.'s No. 1 Harvey C. Mockerman, C NE SW Section 32-13n-7w, Millbrook Township, Mecosta County, which made 14,100,000 feet at a total depth of 1,283 feet topping the sand at 1,271 feet.

Gordon Oil Co., already credited with a greater open flow than any other operators in the field, added 11,000,000 feet with completion of the No. 2 Garner, C NE SE Section 32, same township. Michigan Stray sands were topped at 1,293 feet and drilling completed at 1,305 feet.

Guy M. Obenauer also drilled in his No. 1 P. Braley, C NW NE Section 4-12n-7w, Belvidere Township for an open flow of 11,000,000 feet at 1,278 feet deep. Pay sands were first encountered at 1,268 feet.

Other Montcalm Tests

The Rex Oil & Gas Co. has decided to continue to the Dundee with its No. 1 Sanford Newland, NW NW NW Section 2-12n-8w, a Cato Township, Montcalm County wildcat which swabbed from 4 to 10 bbls. daily from a show in the upper Traverse at 3,063 feet.

Jetter Oil Co. and the Lima Oil Corp. co-operating in the No. 1 C. N. Long, SW SW SE Section 1-9n-6w, a Bushnell Township, Montcalm County wildcat, were nearing the Dundee.

Gratiot County

Two Gratiot County wildcats, one in Bethany Township and the other in Seville Township, also were nearing the Dundee. Both are being drilled by the St. Louis Pipe & Supply Co.

They are the No. 1 John Longanbach, SE NE SE Section 10-12n-2w, Bethany Township, and the No. 1 Northwestern Mutual Life Insurance Co. test, NE NE SW Section 25-12n-4w, Seville Township. Jackson-Meyer-Schmidt, trustee's No. 1 Newton Garner, NE NE SE Section 10-9n-4w, North Shade Township, also may complete in the Dundee this week.

Isabella County

A new Isabella County well with an estimated initial flow of 400 bbls. a day was completed in the Dundee last week by J. V. Wicklund. It was his No. 4 Charles Durnin, NE SE NE Section 22-16n-4w, Vernon Township, one of the best wells struck in this older field for some time.

Morris-Van Keuren Oil & Gas Co.'s No. 4 on the J. A. Bowman heirs lease, NW NE NW Section 27, same township, struck water in the Dundee after casing at 3,757 feet and probably will be deepened.

Midland County

L. J. Baker, trustee's No. 1 A. E. and Nellie L. Hill, SE SE SE Section 8-13n-1w, Porter Township, Midland County, struck a good show of oil in the upper Traverse but probably will be drilled on to the Dundee.

Two other Porter Township tests were near the Dundee as follows: Carter Lease, Inc.'s No. 8 William Maywood Carter, NW SE SW Section 18, and Bauman & Shine's No. 1 Charles Long, C N NW NE Section 19.

Wildcats

Drilling operations were temporarily suspended last week in the National Minerals Corp.'s No. 1 Jasper Lewis, SE SE SW Section 5-10n-11w, Solon Township, Kent County, at a depth of 2,476 feet after a light show in the upper Traverse topped about 20 feet above the present bottom of the hole.

J. V. Wicklund's No. 1 E. E. Cutler, NW SW NW Section 10-8n-6w, Ronald Township, Ionia County, was drilling below 2,800 feet and expected to test the Dundee this week.

Twelve permits for new locations and one transfer were issued during the week ended October 2 by the Michigan department of conservation.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Oct. 7.—In Wood County four wells under way may develop a new producing area. Pember & Raydure are drilling on the R. E. Wagner farm, Section 27, Jackson Township. Wilber P. Hoople is drilling No. 6 on the Mary Reitzer farm, Section 23, Perrysburg Township; Frank Wolfe is drilling No. 1 on his farm, Section 25, Freedom Township, and Mary V. Concen is drilling No. 1 on the C. E. Mercer farm, Section 14, Liberty Township, same county. In Troy Township, Fred Schulty abandoned No. 2 on his farm, Section 1. L. L. Ross abandoned Nos. 1 and 2 on the Kinker Harrison farm, and Nos. 2 and 3 on the William Koicker farm, same section.

In Allen County, H. F. Kelley & Co.'s No. 1 on the Martin Brothers farm, Section 20, Perry Township, produced an initial of 5 bbls. Ohio Oil Co. is drilling No. 8 on the George W. Tabler farm, Section 9, same township. In Bath Township Carman Oil Co. is drilling No. 5 on the Martha Powell farm, Section 13, and C. A. and F. J .Peavey are drilling No. 4 on the Mary E. Steele farm, Section 24, same township. In Jackson Township, Michigan & Ohio Oil Co.'s No. 1 on the J. W. Clark farm produced 8 bbls. initially.

CENTRAL OHIO

In Wayne County, Nelson & Co.'s No. 1 on the Lewis C. Iches farm, Section 3, Congress Township, was dry at 630 feet. In Clinton Township, Ohio Fuel Gas Co. is drilling No. 1 on the Frederick Maurer farm, Section 12. Robison & Co. is drilling No. 1 on the Raymond A. Lake farm, Section 12, same township. Ohio Fuel Gas Co. has a location on the Eli S. Finley farm, Section 31, Chester Township.

In Lorain County, Frank Meredith is drilling No. 1 on the Rice & Rosencrans farm, Lot 104, Russia Township. Ohio Fuel Gas Co. is drilling No. 1 on the Fred Smith farm, Section 26, LaGrange Township. Minor & Co. is drilling No. 3 on the Mathias Myers farm, Section 32, Ridgeville Township. Schneider & Wyles are drilling No. 1 on the Jay Comstock farm, Section 6, and No. 1 on the A. L. Mills farm, Section 7, same township.

KENTUCKY

In Ohio County, Stewart & Gealey's No. 14 on the James Roberts farm, in the Oak Pool, produced an initial of 50 bbls. Ohio Oil Co.'s No. 11 on the A. G. Pfister farm, Maddox Pool, produced 18 bbls. initially. Cumberland Petroleum Co.'s No. 1 on the G. Evans farm, Webster Pool, was dry as was its No. 1 on the D. Evans farm. John Breen, Jr., & Co.'s No. 1 on the M. A. King farm, Deanfield Pool, was dry. In the Webster Pool, Ohio County, J. C. Miller & Co.'s No. 8 on the Martha Webster farm was dry. Petroleum Co.'s No. 2 on the Ben Canary farm was an 8-bbl. initial producer. Chester Oil Co.'s No. 2 on the Bolling Bartlett farm, Maddox Pool, produced 20 bbls. initially.

In McLean County, J. H. Mayer's No. 1 on the P. H. Martin farm, near Liverpool, produced an initial of 200 bbls. Ohio Oil Co.'s No. 5 on the George B. McManama farm, Calhoun area, produced 38 bbls. initially. First Owensboro Bank Trust Co.'s No. 3 on the Nina Wilhite farm produced 71 bbls. J. O. Miller, trustee's No. 1 on the Falley tract, was dry. Kentucky Oil & Gas Production Co.'s No. 2 on the J. E. Ellenwood farm, near Livermore, was dry.

ILLINOIS

In Jasper County, Richard Eke & Co. is drilling in Section 7, Waid Township. C. E. Karns & Co. is drilling No. 1 on the E. Apple farm, Section 24, LaMott Township.

INDIANA

In Marion County, Sunnyside Hospital's No. 4 on the Hospital grounds, Section 33, Lawrence Township, is a gas well. In Sullivan County, Henley & Co.'s No. 1 is drilling on the William Bailey farm, Section 18, Turman Township.

In Daviess County, Petroleum Exploration Co. is drilling on the Andrew Rupprecht farm, Section 28, Harrison Township. Hartford Oil Co. is drilling No. 3 Glendenning, Section 34, Harrison Township.

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The greatest achievement in oil field engine design and practice. Read announcement pages 106A, 107A of this issue

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California Field Report

ADDITIONAL WILDCAT TESTS IN THE SAN JOAQUIN VALLEY

By
L. P. STOCKMAN

LOS ANGELES, Calif., Oct. 7.—Although there has been no apparent diminution of drilling operations since the reduction in crude oil prices on August 29, the cut in prices has no doubt slowed up development work or at least postponed the starting of a number of projected wells in proven fields and tests in wildcat areas. Extensive leasing in the San Joaquin Valley during the past 60 days indicates that a number of operators will start additional wildcat tests before the close of the current year. Associated Oil Co. is scheduled to start a wildcat on a block of approximately 20,000 acres in the Tulare Lake region in conjunction with the General Petroleum and Milham Exploration Co. This well, which will be spudded in shortly, is a geophysical prospect with oil as the primary objective and natural gas of secondary interest. Due to the presence of gas in this area, it seems reasonably certain that exploration work should prove up the existence of a substantial accumulation of gas. Due to the large amount of acreage tied up, it is quite probable that more than one test will be drilled in this area. The acreage which will be tested out by the joint well of the Associated, General Petroleum and Milham Exploration Co. includes 5,800 acres leased from the West Tulare Land Co., 2,500 acres of the C. Cohen Ranch, 2,686 acres of the Goodfellow Ranch, 4,800 acres of the Annie Little Ranch and an additional block of acreage leased from the Boston Land Co.

Kings County

The Sunset Oil Co. took a lease on 14,734 acres of the La Hacienda Ranch in the southeastern section of Kings County a few weeks ago, but immediate drilling operations are not contemplated. The consideration involved was $15,000 in cash and a one-eighth royalty on all oil and gas produced. Union Oil Co. recently tied up 400 acres of potential oil land east of Famosa in Kern County following a recent geophysical test, but no date has been set for the starting of exploration work. Included in this acreage are 120 acres leased from Sarah Marvin, 40 acres from Emily D. Stewart and 160 acres from H. D. and L. D. Porter. Continental Oil Co. recently spudded in a new wildcat in the Santa Ana district of Los Angeles Basin, where a number of dry holes have been drilled up to the present time, although none of these tests were carried deep enough to be of a conclusive nature. Shell Oil Co. has completed an operating agreement with the Comanche Oil Co. whereby the former will take over the latter's wildcat in the Comanche district of Kern County and carry it down another 1,000 feet to test out the productive possibilities of the Santa Margareta in that area.

Standard Oil Co. added another exceptionally good well to its list of producers in the Kettleman North Dome Field during the early part of the current week when No. 23-19-J was brought in flowing 10,780 bbls. of clean 34.6 gravity oil and 6,200,000 feet of gas per day. This new well, located in Section 19-21-17, was bottomed at 8,560 feet and finished with a 5½-inch liner including 407 feet of perforated. The company's No. 36-27-J, finished last week, died a few days ago, probably due to sand trouble, and it is at the present time being reconditioned. The Kettleman North Dome Association picked up the top of the upper variegated in three wells in the North Dome, one of which is located in Section 24-21-16 in the extreme western end of the structure. This well, No. 54-24-H, encountered this marker at 8,115 feet. No. 8-18-J picked up this marker at 8,008 feet, while No. 23-28-J in Section 28-21-17 logged it at 7,390 feet. Continental Oil Co. is rotating ahead in No. 1 Gatchell, a test in the South Dome of Kettleman Hills, at 7,775 feet following the failure to secure an effective water shutoff on the 5-inch landed and cemented at 7,350 feet. The Standard is running a water witch in No. 38-29-V in order to determine the source of water in this well, which is located in the Middle Dome of Kettleman Hills.

There are several potential producers nearing completion in the Mountain View Field of Kern County and at least one of them should be tanking oil within the next few days. Although drilling operations are not as large as has been the case heretofore, it is interesting to note that several wells are being rigged up preparatory to being deepened to the Wharton zone. Shell Oil Co.'s No. 2 on Porter lease No. 2, finished last week, is holding up in good shape with current production, 3,620 bbls. per day, scheduled to be pinched in within the next 24 hours. Standard Oil Co. found the Whartzon zone barren at 5,200 feet in No. 1 Mullaney and preparations are being made to complete this well in the Kern River series. The Barnsdall, which recently took over the Hubro Oil Co.'s No. 1-A Noble, has this well rotating ahead in oil sand at 6,160 feet.

Edison

Two new wells were completed in the Edison Field of Kern County within the past week and another, No. 4 Knapp of the General Petroleum Corp., is being rigged up to pump following completion at 1,329 feet. Monterey Exploration Co. successfully completed its No. 4 Citizens in this field a few days ago and this new well was brought in flowing 380 bbls. of clean 20.3 gravity oil per day. No. 4 Citizens was completed in the Miocene at 2,791 feet and finished with a 6⅝-inch carrying 150 feet of perforated. Union Oil Co. got its second well in the Edison Field a few days ago when No. 2 Dougherty was brought in pumping 160 bbls. of 18.9 gravity oil per day from 1,510 feet. The A. T. Jergins Trust spudded in No. 6 fee in Section 13-30-29 and has three additional rigs in course of construction.

In the Round Mountain Field of Kern County, the Shell Oil Co. has completed No. 2 on Olcese lease No. 1 in Section 17-28-29 and this new producer was brought in pumping 333 bbls. of 17.5 gravity oil per day from 2,060 feet. The Shell has another well scheduled for completion in this field

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Sept. 22		Sept. 15			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic:						
Fuel oil	.....	.....	.....	.....	.....	10,160,296
Diesel and gas oil	.....	.....	.....	.....	527,098	1,021,175
Gasoline	115,970	16,567	70,499	10,071	5,777,286	5,823,285
Kerosene	.....	.....	.....	.....	753,457	798,453
Asphalt	.....	.....	.....	.....	.....	70,019
Other finished oil	.....	.....	.....	.....	.....	54,778
Foreign exports—						
Crude oil	229,541	34,220	104,641	14,949	9,800,496	5,865,199
Fuel oil	237,834	33,976	50,995	7,285	8,953,515	9,506,642
Diesel and gas oil	123,496	17,642	21,850	3,121	3,423,079	2,963,573
Gasoline	118,558	16,937	.....	.....	4,890,489	3,193,269
Kerosene	.....	.....	105,524	15,075	956,477	1,344,002
Other finished oil	.....	.....	.....	.....	.....	37,955
Other unfinished oil	.....	.....	.....	.....	99,847	210,500
Coastwise-domestic—						
Crude oil	340,751	48,679	216,630	30,947	4,589,885	6,167,842
Fuel oil	118,939	16,991	513,040	73,291	7,210,133	7,079,666
Diesel and gas oil	.....	.....	49,692	7,099	675,801	541,300
Gasoline	182,790	26,256	281,284	40,183	8,287,931	9,449,636
Kerosene	.....	.....	2,406	344	142,842	111,508

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Fuel oil	.....	.....	.....	.....	.....	110,650
Diesel and gas oil	.....	.....	.....	.....	168,152	526,288
Gasoline	.....	.....	.....	.....	.....	290,826
Kerosene	.....	.....	.....	.....	149,715	276,412
Asphalt	.....	.....	.....	.....	420,414	.....
Lubricants	.....	.....	3,613	516	45,620	34,695
Foreign exports—						
Crude oil	.....	.....	147,420	21,060	1,838,964	1,492,701
Fuel oil	.....	.....	144,496	20,642	1,673,594	1,581,207
Diesel and gas oil	.....	.....	51,379	7,340	855,891	1,085,850
Gasoline	.....	.....	68,424	9,775	2,113,509	2,411,704
Kerosene	.....	.....	10,113	1,445	597,608	789,174
Lubricants	.....	.....	2,738	391	155,238	143,157
Other finished oil	.....	.....	.....	.....	.....	2,760
Other unfinished oil	.....	.....	.....	.....	.....	5,750
Coastwise-domestic—						
Fuel oil	72,481	10,354	277,726	39,675	4,888,399	4,247,420
Diesel and gas oil	.....	.....	.....	.....	175,932	119,034
Gasoline	77,576	11,082	18,711	2,673	3,247,567	3,899,332
Kerosene	2,782	397	3,364	481	76,785	64,805

and it should be tanking oil within the next few days. The Standard Oil Co. has staked location for a test to be drilled in Section 3-29-29 approximately 5 miles southeast of the Round Mountain Field. Two new wells are expected to be completed in the Mount Poso Field of Kern County during the forthcoming week and several other potential producers are expected to follow them into production within a short time. The two wells scheduled for completion are No. 2 S. & M. of the Union Oil Co. and No. 8 Vedder of the Texas Co. The Union erected several new rigs in this field a few weeks ago and the Texas Co. is building derricks for Nos. 9 and 10 on the Vedder lease and one of them should get under way within the next 10 days. The Shell and General Petroleum are also making preparations to start additional development work in this field.

Midway-Sunset

Honolulu Oil Corp. added a new well to its list of producers in the Midway-Sunset Field of Kern County during the early part of the current week and should have another ready for completion within the next 15 days. The Honolulu's new well was No. 14-25, which was brought in pumping 268 bbls. of exceptionally clean 26.8 gravity oil per day from 3,133 feet. General Petroleum is bailing No. 110 Moco after plugging back the hole from 2,324 feet to 2,135 feet. Chanslor-Canfield Midway Oil Co. is running three strings of tools in this field at the present time and consequently should finish at least one well within the next fortnight. There are three wells under way in the McKittrick Field of Kern County at the present time, one of which, the Belmac Drilling Co.'s No. 1 Douglas, is getting rather deep at 3,670 feet. Big McKittrick Oil Co., which spudded in a projected deep test on the Wisecarver property several months ago and then suspended drilling operations at 600 feet, has not yet resumed work.

Several additional completions are expected to be chalked up out on the West Front of the Kern River Field within the next two or three weeks as operators in this district are maintaining a rather consistent drilling program. The Kern River Oilfields Co. effected a satisfactory water shutoff on its No. 5 in Section 25-28-27 at 1,829 feet, and this project is ready for a pumping test within the next several days. The Standard Oil Co. is rigging up No. 5 fee in Section 5-28-27 and this well should be completed within the next two or three weeks. The Western Gulf is working on two potential producers in the Fruitvale Field of Kern County and one of them, No. 1 Wear, should be given a production test within the next few days. Marr & Janeway have purchased the lease and holdings of the bankrupt Cascade Oil Co. in the Fruitvale Field for $27,500. A total of two leases aggregating 15 acres and four small pumping wells are involved. Standard Oil Co. completed a new gas well in the Semi-Tropic gas field of Kern County early this week when No. 1 Gutzler was completed flowing 26,730,000 feet of gas per day from 2,408 feet after the hole had been finished with a 6⅝-inch liner carrying 52 feet of perforated. The Standard, instead of abandoning No. 7 Kern County Land Co. lease No. 1, decided at the last minute to make some more hole before abandonment. As a result of this decision, this well is drilling ahead at 3,670 feet.

West Coyote

The Standard Oil Co. finished an exceptionally good well in the West Coyote Field of Los Angeles Basin during the early part of the week when No. 123 Murphy-Coyote was brought in flowing 1,112 bbls. of clean 32.2 gravity oil and 2,130,000 feet of gas per day from 6,048 feet. This is the best well completed in the West Coyote Field in several months and conclusively reveals the reserves of the Standard Oil Co. in this district. The company has two other wells under way on this lease at the present time, but they are not scheduled for completion until early in November. The Chanslor-Canfield Midway Oil Co. is reaming No. 99 Olinda in the Brea Canyon Field of Los Angeles Basin at 3,946 feet, preparatory to the landing of an oil string. The Standard Oil Co. is putting the finishing touches on a new rig in the Richfield district and present plans contemplate the starting of drilling operations within the next 15 days. The company's outpost in this field is No. 1 Yorba Community in Section 36-3-9. Ted Cook has started rig construction for an outpost to be drilled in close proximity to the Standard's new test and both projects may bear watching during the course of work.

In the Long Beach Field of Los Angeles Basin the Eskagee Oil Co. successfully completed its No. 1 Signal pumping 187 bbls. of 25.6 gravity oil per day after finishing the hole at 4,126 feet. This new well has a 7-inch water string landed and cemented at 3,944 feet and a 5½-inch liner carrying 182 feet of perforated. Orbit Oil Co. chalked up the best well finished in this field during the week as its No. 1 Long Beach, bottomed at 4,146 feet and finished with a 4¾-inch liner including 185 feet of perforated was brought in on the beam doing 351 bbls. of relatively clean 24.6 gravity oil per day. Litigation involving crooked hole drilling has reached an interesting stage as operators who had started to abandon wells that had been producing from beneath adjacent property in order to escape prosecution have held up abandonment in many cases. It is reliably reported that many have cemented the tubing in the casing and by using a tubing catcher or some similar device have put the well in such shape that it cannot be surveyed. Of course such action means that the well is lost as soon as any mechanical trouble develops unless the pipe can be cut out and sidetracked.

El Segundo

The El Segundo district of Los Angeles Basin where the Republic Petroleum Co. finished a small well pumping 150 bbls. per day several weeks ago does not look any too promising, although it is quite obvious that it will require one or more tests before a fair appraisal can be made of the district. Larco Oil Co.'s test located between the Republic Petroleum's well and the Playa Del Rey Field has taken on a very dubious outlook although it may yet get production. This test is down 7,367 feet, but according to the log of the well it does not correlate with the discovery well at any point. The discovery well was bottomed in Schist at 7,405 feet and with this as a basis the Larco's test appears to be either off structure or further out on the dip. Associated Oil Co. has tied up 160 acres between the discovery well and the Hawthorn district where a number of shallow gas blowouts took place a number of years ago. This piece of acreage tied up by Associated Oil Co. looks rather good, especially since it was leased on advantageous terms. A distillation test of crude oil produced by Republic Petroleum's discovery well in the El Segundo district indicates approximately 28 per cent gasoline, 11 per cent kerosene, 5 per cent distillate and 55 per cent residuum.

The Montebello extension is still an enigma, but with additional wells being started each week it will not be long before there will be enough tests drilled to thoroughly prove up the area. Hillman & Long have spudded in their test in this district and the Signal Oil Co. is building rig for a new well to be drilled in Section 4-2-11 on the Lapworth property. Universal Consolidated Oil Co. had oil sand in both No. 1 Estrada and No. 1 Farmer, but both passed through the upper zone and will be carried down to the lower horizon. It is quite possible that one of these projects may be plugged back in order to test out the upper zone before making any more hole. Royalty Service Corp.'s No. 23-1 Del Rey proved to be somewhat of a disappointment upon completion early this week as it showed an initial daily production of only 241 bbls. of 22.5 gravity oil upon conclusion of drilling at 6,565 feet. This new well, which was finished with a 4¾-inch liner carrying 170 feet of perforated, indicates the present depleted condition of the oil zone in the Palisades section of the field.

Canadian Fields

Turner Valley's Production, Oil and Naphtha Increase

By VICTOR LAURISTON

CHATHAM, Ontario, Oct. 5.—Crude production from Alberta fields in August totaled 102,741 bbls. compared with 102,115 bbls. in July. Turner Valley naphtha was up from 96,248 to 97,706 bbls. and Turner Valley light crude increased from 1,399 to 1,530 bbls. Red Coulee light crude increased from 1,660 to 1,794 bbls. while Wainwright heavy crude oil dropped from 2,008 to 1,711 bbls.

South Turner Valley

In Section 28-18-2w5, South Turner Valley Field, Renfrew Royalties' No. 1, Morris and Goodfellow, LSD 3, on the west side, got the Madison lime below 6,000 feet. It has logged about 160 feet deeper than British Dominion Oil & Development Corp.'s No. 4, LSD 6, same section, a short distance north. British Dominion's No. 4, drilling more than 240 feet in the lime at 6,080 feet, has about 8,000,000 feet of wet gas. It will continue to the main porous zone of the Madison formation.

In Section 21-18-2w5, Highwood-Sarcee Oils' No. 2, LSD 1, is working on cellar. British-American Oil Co. has an interest in this test about a mile south of Highwood-Sarcee's No. 1 producer in the northeast corner. This is the farthest south active test in Turner Valley.

Highwood-Sinclair Prospects

On the Highwood-Sinclair structure south of Turner Valley, Maple Leaf Royalties' No. 1 Banner, LSD 6, Section 34-17-3w5, is below 2,368 feet close to the Home sand with additional small shows of oil and gas. This is the nearest test in the southern foothills to South Turner Valley. The Turner Valley Field has gradually been working southeast along the trend of the structure, farthest south production being in LSD 16, Section 21-18-2w5, and the farthest south active test in LSD 1, of the same section, approximately a mile south. Maple Leaf Royalties' No. 1 Banner in LSD 6, Section 34-17-3w5, is approximately 6 miles farther south than Highwood-Sarcee's No. 1 producer but it is also about 6 miles west, which would indicate if the Turner Valley southeast trend is consistent, the Highwood-Sinclair structure is not a continuation of the Turner Valley structure but a parallel fold farther west.

Farther south, Pekisko Co.'s No. 1 in LSD 6, Section 6-17-2w5, got the Madison lime unusually high at about 1,071 feet and has apparently entered the Devonian lime. This location is more nearly in line with the Turner Valley structure. It is about 10 miles south of Highwood-Sarcee's No. 1 and between 2 and 3 miles west. Logs of both wells, and particularly Pekisko Co.'s No. 1 show the formations considerably higher than in South Turner Valley though in Maple Leaf Royalties' No. 1 the lower formations are logging thicker than in the Turner Valley Field.

If the Turner Valley fold continued consistently along the proven southeasterly trend it would lie between 3 and 5 miles east of Pekisko's No. 1. Indications are the fold definitely continues at least from 1 to 2 miles southeast of Highwood-Sarcee's No. 1 producer.

North Turner Valley

In North Turner Valley, Model Oils' No. 3, LSD 1, Section 22-20-3w5, got the Home sand at 5,120 feet and is logging satisfactorily with No. 1 producer, same section. Royalite Oil Co.'s No. 27, LSD 4, Section 23-20-3w5, offsetting Model's No. 3 to the east, is installing rotary equipment. South and west, Phillips Royalties' No. 1, LSD 16, Section 16-20-3w5, is at 2,400 feet logging satisfactorily.

Rocky Mountain Area

PROSPECT OF SHALLOW POOL IN ARCHULETA FIELD, COLO.

By T. R. INGRAM

DENVER, Colo., Oct. 7.—Oil rose 950 feet in the W. E. Hughes estate's test in Archuleta County, Colorado, after drilling 5 feet into sand, and it gives promise of opening a new commercial pool at a shallow depth. The Colorado Oil Refining Co.'s test on the Granby structure in Grand County, struck granite and is being abandoned. Continental Oil Co.'s No. 3 Hoye, on the South McCallum Dome is about ready to drill into the sand which made "ice cream" oil in the other wells.

Kinney-Coastal Oil Co. is preparing to drill to the Madison lime in its No. 3 Government, on the Garland Dome, in Wyoming, and is moving in rotary. One small well was completed in the Lost Soldier Field by Sinclair-Wyoming Oil Co.

Twenty-five tracts of Indian land in the Blackfeet Reservation near the Cut Bank Field in Montana brought bonuses aggregating $36,840 for 2,915 acres. Three completions and three new locations were made in the Cut Bank Field, the Montana Power Gas Co.'s No. 1 Hall making 312 bbls. in 24 hours and extending the pool 2 miles to the north. Ohio Oil Co. is resuming operations in the Kevin-Sunburst Field and released two locations.

The development of carbon dioxide gas and making of dry ice is becoming an important industry in Torrance County, New Mexico.

COLORADO

Adams County

Riddle Pet. Co.'s No. 1 Baxter, C SW Sec. 2-3s-66w.
Standing partly rigged and drlg. water well; T.D. 1,222 ft. in coal; will run 4½-in.

Archuleta County

An encouraging show for a commercial producer, which may open a new oil field in southwestern Colorado, was encountered in the William E. Hughes estate's No. 2 fee, on unsurveyed land in approximately the SW Section 24-33n-2e, in the Price district, southeast of Pagosa Springs and about 6 miles north of the New Mexico line. It encountered a sand in the upper Dakota series at 1,080 feet and had a show of oil. The bit then went about 1 foot into the sand and operations were suspended for the night. The next morning the oil was rising slowly in the hole. It was then deepened 4 feet to 1,085 feet and oil came up 950 feet in the hole. Operations were then suspended to install a control head and erect tankage. Just as soon as this work is completed it will be drilled deeper into the sand and tested. The well is located about 1,500 feet east of its No. 1 fee, which was abandoned several weeks ago after getting water in the Dakota at 1,285-1,405 feet. The log of this well indicated that the structure was faulted and that the test was on the downthrow. The rig was moved to the east side of the Navajo River and east of where it was believed the fault was located. The Hughes estate has around 65,000 acres of land in this district in what is known as the Tierra Amarilla land grant. The Oil City Petroleum Co. had a good show of oil in its No. 1-A Garnett, three-fourths of a mile to the southwest, at 970 feet.

Wm. E. Hughes Est.'s No. 2 fee, (unsurveyed), approx. SW Sec. 24-33n-2e.
T.D. 1,085 ft.; 950 ft. of oil in the hole.
Oil City Pet. Co.'s No. 1-A Garnett, NW NE NW Sec. 25-33n-2e.
T.D. 1,520 ft.; U.R. 6¼-in. to bottom; shale 1,497-1,510 ft.; back into sand at 1,510 ft. with show of oil, no water.
Navajo Oil Co.'s No. 1 Crowley, SW SW NE Sec. 11-32-1e.
T.D. 1,130 ft.; pulled 5 3-16-in. and S.R.

Baca County

J. H. Everett et al's No. 1, 330 ft. NW cor. Sec. 24-32-48.
Spudded wtr. well.

Boulder County

Leslie R. Steele et al's No. 1 Maxwell, SW NE NW Sec. 24-1n-71.
Drlg. 1,941 ft. in black shale.

Fremont County

Waterville Oil Co.'s No. 1 State, SE SE NW Sec. 16-18s-69w.
T.D. 2,780 ft.; 150 ft. of oil in hole; U.R. 6 3-16-in. at 2,750 ft.

Grand County

Colorado Oil Refining Co.'s No. 1 Linke, NE SW SW Section 13-1n-77, on the Granby structure, encountered granite at around 2,560 feet and is pulling casing to abandon at 2,600 feet, total depth. The drilling was almost altogether in the Pierre shale and the objective Dakota was not in place. It had several good shows of gas and some slight indications of oil. At 735-40 feet it had enough gas to burn and in a sand in the Hygiene at 1,058-88 feet, it had a constant flow estimated at 250,000 feet a day. Below this sand it passed through a shale break and had a show of oil in a thin sand. Shows of gas continued almost to the bottom, but the bit did not encounter the second and third Hygiene sands.

Interstate O. & G. Co.'s No. 1 Hinman, NE NE NW Sec. 11-2n-81.
S.D. 2,997 ft.

Huerfano County

S. W. Pressey's No. 1 Ojo, SW NE Sec. 10-28-69.
S.D. 2,550 ft.
Collins & Quinn's No. 1, C W½ E½ Sec. 4-28s-68w.
S.D. 4,115 ft.

Jackson County

Continental Oil Co.'s No. 3 Hoye, on the South McCallum Dome, is about ready to drill into the sand which makes oil with carbon dioxide gas, but is shut down temporarily at 4,896 feet to install blowout preventer and await the return of Fred Manning, drilling contractor, whose partner was killed in a plane crash in Wyoming last week. The hole is heavily loaded with mud, and as the nature of this sand is known and there is considerable risk of the well getting out of control if a test is made, it is planned to go on through this sand, cement pipe below the gas and make a test of the deeper horizons. The extreme cold temperature of the gas coming from this horizon in the other tests in this district is believed to have resulted from its expansion on the way from the sand to the surface and by keeping the well heavily loaded, and not trying to test, it is expected that no difficulty will be encountered in getting through the treacherous formation.

Colorado Oil Ref. Co.'s No. 1 North Park Coal, NW NW Sec. 18-9n-78.
T.D. 1,805 ft.; straight reaming for 12½-in.; to set at 1,500 ft.
Continental Oil Co.'s No. 3 Hoyle, NW NW NE Sec. 34-9n-78.
T.D. 4,896 ft.; installing blowout preventer.

Jefferson County

Ruby Hill O. & G. Co.'s No. 1 Braden, SE cor. Sec. 24-4s-69.
Drlg. 4,160 ft. (cor.)

Lincoln County

Consolidated Smelting & Metals Co.'s No. 1 Hancock, NE NE Sec. 7-17s-52.
Drlg. 1,780 ft.

Moffat County

Mountain Fuel Supply Co.'s No. 1 Kuykendall, NE NE SE Sec. 22-12n-100w.
Drlg. 2,220 ft.
Stanolind O. & G. Co.'s No. 16-X Parkinson, 220 ft. W and 618 ft. S of NE cor. Lot 5 (SW NW NW) Sec. 23-4n-92w.
Rigged and ready to spud.

Morgan County

Swisher et al's No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, Sec. 3-4n-60. Reran 4¾-in. to bottom at 1,079 ft. and resumed drilling.

Park County

South Park Oil Co.'s No. 1 State, SE SE SW Sec. 16-11s-75w.
T.D. 3,560 ft.; M.I. 6⅝-in.

Prowers County

Trojan O. & G. Co.'s No. 1 Lotus Oil, NW NE NE Sec. 15-23-46.
Drlg. around 5,600 ft.

Routt County

Mid-Colo. Pet. Co.'s No. 1 Omhalt, NE NE SE Sec. 29-4n-87w.
T.D. 2,750 ft.; preparing to run 8¼-in. to bottom wtr. in Dakota; show of gas at 2,750 ft. on top Lakota.

Washington County

Fremont Buttes Oil Co.'s No. 1 Gilcrest, SW SE SW Sec. 22-3n-53w.
S.D. 200 ft.; 15½-in. at 127 ft.

WYOMING

Big Horn County

The Kinney-Coastal Oil Co. has contracted with Paul Stock to complete its No. 3 Government, on the Garland Dome, and contractor is moving in rotary. This well was drilled several years ago to 4,234 feet by the Producers & Refiners Corp. as a joint operation with the Kinney-Coastal company. When the Producers & Refiners went into a receivership the Kinney-Coastal company acquired its holdings in the Garland area, including this well. At present depth it was rated good for 5,000,000 to 6,000,000 feet of gas a day with the tools in the hole. It is bottomed in the Tensleep. It is planned to drill by the tools and go deeper, probably to the Madison.

J. W. Bales' No. 1 Parker, C SW SW Sec. 23-49-89.
Drlg. 463 ft.
Peter Evanoff's No. 1 Griffin, Lot 60, Sec. 4-55-97.
Drlg. 1,750 ft. and carrying 15½-in.
Peter Evanoff et al's No. 1 McAllister, Lot 50, NW NE SE Sec. 3-55n-97w.
Drlg. 1,835 ft.
W. S. Gilbert's No. 1 Zaring, SE SE SE Sec. 35-52-93w.
Drlg. 860 ft.
Joan Oil Co.'s No. 1 Howell, NW SE NE Lot 63, Sec. 32-55n-97.
Drlg. 1,200 ft.
Kinney-Coastal Oil Co.'s No. 3 Government, SW NW NE Sec. 24-56n-98w.
T.D. 4,234 ft.; M.I. rotary to drill deeper.
Ohio Oil Co.'s No. 3 Byron Union, SE NW NE Sec. 22-56-97.
Coring 5,605 ft.
Ohio Oil Co.'s No. 3 Sessions, NW SW NW Sec. 33-56n-97w.
Drlg. 3,116 ft.
Montana-Wyoming Oil Co.'s No. 1 Government, Lot 52, Sec. 18-56n-97w.
Drlg. 2,000 ft.
Peay Oil Co.'s No. 2 Government, SE SE SE Sec. 10-55n-97w.
R.U. cable tools.
J. H. Shaffer's No. 1 Keachie, C SW SW Sec. 7-49-91.
S.D. 1,170 ft. (cor.); 8¼-in. frozen at 1,080 ft.
Wyoming O. & R. Co.'s No. 1 Evans, NE NE NW Sec. 12-49-91.
Set 1½-in. at 35 ft. (cor.) and S.D.
Yale Oil Corp.'s No. 1 Allen, Lot 52, Sec. 3-56n-97w.
Drlg. 2,300 ft.

Carbon County

Ohio Oil Co. and California Co.'s No. 2 State, C NW NW Sec. 36-21n-79w.
Drlg. 4,864 ft.
Ohio Oil Co.'s No. 5 Diamond Cattle, NW SW NW Sec. 35-20n-78.
Pulling liner to D.D. from 2,832 ft.
Ohio Oil Co. and California Co.'s No. 1 Union Pacific, Acct. J, NE SW NW Sec. 25-21-79w.
Cmtd. 11¾-in. at 505 ft.; drlg. wtr. well.
General Pet. Corp.'s No. 1 Whitford, SW SE NE Sec. 24-20-84.
Coring at 5,177 ft. (cor.).
General Pet. Corp.'s No. 1 Union Pacific, C SW SW Sec. 19-20-83.
S.D. 5,931 ft.; may be deepened.
Sinclair Wyoming Oil Co.'s No. 9 Wertz, NE NW NW Sec. 7-26n-89w.
T.D. 2,320 ft.; 8¼-in. at 2,265 ft.; W.O.C.
Shirley-Wyoming Oil Co.'s No. 1 Government, NW NE Sec. 2-26n-80w.
Drlg. 415 ft.

Converse County

Chadron-Osage Oil Co.'s No. 1 State, SW cor. Sec. 16-32-69.
Continental Oil Co.'s No. 60 State, NW SW NE Sec. 9-33-76.
Drlg. 4,119 ft. in shale and shells.
John Ackard's No. 1 Daniels, SW SW SE Sec. 17-32-71.
Drlg. 3,000 ft.

Crook County

Dr. R. B. Kinter's No. 1 Rockford-Wyoming, CNL NE SE Sec. 13-52n-62w.
Trying to make wtr. shutoff at 1,337 ft.

Fremont County

Mid-American Oil Co.'s No. 3 Government, NW NE SW Sec. 25-28-92.
Drlg. 1,450 ft.
Nelson & Poupiert's No. 2 Enos, Lot 7, Sec. 27-3n-1w.
Drlg. 1,100 ft.; showing for 1 bbl. of oil.

Hot Springs County

California Exploration Co.'s No. 2 Government, NW SW NW Sec. 7-44-96.
Drlg. 3,615 ft.
Ohio Oil Co.'s No. 72 Millsiron Cattle Co., NE SE SE Sec. 19-46n-98w.
Drlg. 1,083 ft.; 15½-in. at 112 ft.
Oscar G. Grace's No. 1 Government, SW NW NW Sec. 21-42-92.
T.D. 618 ft.; P.B. to 425 ft. and testing show for a 2-bbl. well.

Natrona County

Midwest Oil Co.'s No. 26, C SE NW Sec. 25-40n-79w.
Coring 1,530 ft.

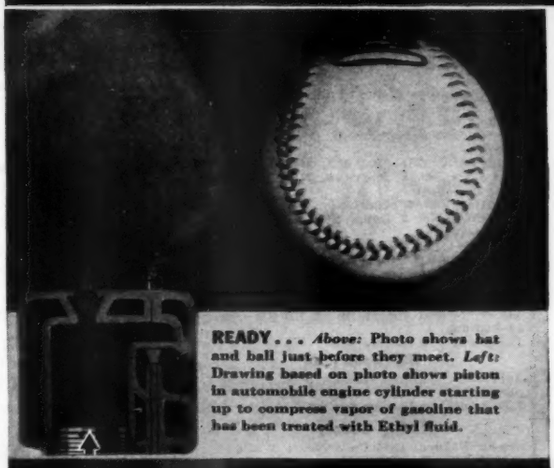
Lincoln County

Superior-Wyoming Oil Co.'s No. 2-B, Lot 3 (NW NW), Sec. 3-26-113w.
Drlg. 791 ft.

Niobrara County

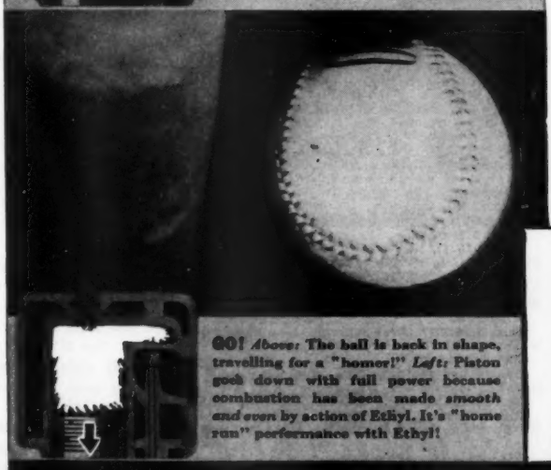
Black Hills Ref. Co.'s No. 1 Wright, SE SE SW Sec. 23-36-64.
Derrick; W.O. rotary equipment from California.
Continental Oil Co.'s No. 3 Joss, 200 ft. E of C NW NE Sec. 6-35n-65w.
Drlg. 1,645 ft. in shale and lime.

READY... COMPRESS... *GO!*



READY . . . *Above:* Photo shows bat and ball just before they meet. *Left:* Drawing based on photo shows piston in automobile engine cylinder starting up to compress vapor of gasoline that has been treated with Ethyl fluid.

COMPRESS . . . *Above:* The exact split part of the second of impact of bat and ball. Note how the ball changes shape. *Left:* The piston in the cylinder continues compression, even after spark plug has started combustion.



GO! *Above:* The ball is back in shape, travelling for a "homer!" *Left:* Piston goes down with full power because combustion has been made *smooth and even* by action of Ethyl. It's "home run" performance with Ethyl!

COMPRESSIBILITY

That's the secret of a long hit . . . and of Ethyl's action in a car's engine!

HERE you can see for the first time what happens in that split part of a second when bat and ball meet.

Look at the photographs. See how the bat sinks into the ball at the instant of impact; how the ball takes shape again as it springs away! That is *compressibility*. The harder the ball is hit, the more it compresses and the faster and farther it goes.

The "cut-away" drawings below the photographs show how this principle applies in an automobile engine. The tighter the pistons compress gasoline in the cylinders, the more power you get. That's why modern cars have high compression engines. But only gasoline of Ethyl quality has enough *compressibility* to stand the terrific squeezing of modern high compression engines without breaking down, knocking, and wasting power. Instead, the tighter Ethyl is compressed, the more power it delivers—and the livelier and more responsive is the car's performance.

That's why modern cars—particularly the new smaller cars with their more efficient high compression engines—need Ethyl. That's why you do your customers a favor when you sell them Ethyl. And that's why more and more car owners say, "Yes!" when you ask, "May I fill it up with Ethyl?"

ETHYL

SNAPPED IN $\frac{1}{100{,}000}$ th OF A SECOND!

These unretouched stop-motion photos were taken at the almost incredible speed of one one-hundred-thousandth of a second, by Dr. H. E. Edgerton and Mr. K. J. Germeshausen of the Massachusetts Institute of Technology.

NEXT TIME . . . AND EVERY TIME . . . SELL ETHYL!

J. H. Huber Co.'s No. 1 Joss, NE SE NW Sec. 6-35n-65w.
Drlg. 3,310 ft. in shale.
Fall River Royalty & Producers Co.'s No. 5-L Briggs, CSL NE NE Sec. 2-39n-61w.
Drlg. 385 ft.
Ohio Oil Co.'s No. 7 Lamb, C NW NE Sec. 5-35n-65w.
Rig up.
Ohio Oil Co.'s No. 4 Putnam, C SW SW Sec. 23-36-65.
T.D. 4,000 ft.; fshg. for stuck drill stem.
Riggs Drlg. Co.'s No. 1 Spaugh, CNL NW NE Sec. 5-33n-65w.
T.D. 1,320 ft.; fshg. for bit.
S. & H. Dev. Co.'s No. 1-A Olinger, SE NE NW Sec. 1-36-63.
T.D. 1,650 ft.; trying to pull 5-3/16-in. to S.R. to bottom.

Park County

Geo. T. Beck's No. 1 fee, NW SE NW Sec. 27-33-101.
Testing oil show in Frontier at 1,315-31 ft.; bailed 5 bbls. in 24 hrs.; 5¾-in. at 1,312 ft.

Sheridan County

Beaver Creek Oil Synd's No. 1 Allison, SW SE Sec. 15-55-85.
Drlg. 2,761 ft.

Sublette County

Texas Co.'s No. 7-K, SW SW SE Sec. 34-27n-113w.
Completed at 758 ft.; not tested.
Piney-LaBarge Oil Co.'s No. 2 Government, CEL NE NW Sec. 18-28-113.
Drlg. below 520 ft.

Sweetwater County

The Sinclair-Wyoming Oil Co.'s No. 62-A, NE cor. Section 10-26-90, Lost Soldier Field, was recompleted at 576 feet for 50 bbls. a day after deepening from 420 feet.

Vermillion Oil Co.'s No. 1 Government, SW SW SW Sec. 7-12n-99w.
Moving in material.
Sinclair-Wyoming Oil Co.'s No. 6 U.S.P., SW SW NW Sec. 11-26n-96w.
S.D. 2,330 ft.

Uinta County

Intermountain Pet. Corp. of Utah's No. 1 Union Pacific-Hayes, SW NW SW Sec. 29-14n-118w.
Drlg. 1,487 ft.
W. D. Marshall's No. 1 Government, NW SW SE Sec. 12-15n-118w.
Drlg. 263 ft.

Washakie County

Arlton & Doyle's No. 1 Government, SW SW SE Sec. 29-48n-91w.
Drlg. 600 ft.
Wyoming O. & R. Co.'s No. 1 Frison, NW SW NW Sec. 14-43-91.
Drlg. 1,710 ft.

Weston County

Conway Oil Corp.'s No. 1 Government, C SE NW Sec. 7-41-60.
Fishing for tools 2,087 ft.
Des Moines-Osage Synd's No. 11, CNL NE NE Sec. 25-46n-64w.
M.I.M. (first report).
Federal Oil Co.'s No. 3 Government, C NE SE Sec. 15-46n-64w.
M.I.M.
Harkins et al's No. 1, SW SW NW Sec. 21-46n-64w.
Drlg. 930 ft.
L. C. Packham's No. 1, NW NW NW Sec. 19-46n-63w.
Resumed at 450 ft.; R.U. to run 8¼-in. to bottom.

MONTANA

Oil and gas leases in the Blackfeet Indian reservation on 31 tracts were offered at auction at Browning on September 27. The acreage lies on the southern and southwestern edges of the Cut Bank development in Glacier County. Twenty-five tracts comprising 2,913 acres were bid in for aggregate bonuses of $36,840 plus 12½ per cent royalty. There were no bids on six tracts. The best sale was $61.50 an acre for 120 acres in Tract 13, by the Texas Co. This tract, which is near the Tweedy producers, is in Section 6-32-5w. The Texas Co. bid in four other tracts and bids for the remainder were graduated down to a low of 30 cents an acre for Tract 1, comprising 250 acres in Sections 26 and 27-22-6w, which went to George H. Campbell of Great Falls.

The terms provide for the drilling of one well on each tract within 90 days, and the drilling out of the leases at the rate of at least two wells annually. Since winter is drawing near when drilling operations are almost at a standstill in the field, it is probable that the issuing of the leases will be delayed or some arrangement made so that operations will not have to start in the dead of winter.

Big Horn County

Daniels Pet. Co.'s No. 1 May, C SE SE Sec. 13-1s-33e.
Drlg. 2,731 ft.
Enterprise Oil Co. et al's No. 2 Lynde, SW SW SE Sec. 21-6n-35e.
Drlg. 3,700 ft.

Carbon County

Bailey Round Butte Oil Co.'s No. 1, 1,120 ft. W of E line and 3,140 ft. N of S line, Sec. 2-6s-23.
Drlg. 1,333 ft.

Chotecu County

Mills & Decker's No. 1, NE NW Sec. 29-27n-13e.
Rig up.

Fallon County

Montana-Dakota Utilities Co.'s No. 1, NE NW Sec. 17-3n-62e.
Coring 3,727 ft.

Fergus County

Button Butte O. & G. Co.'s No. 1 Woodward, SE SE SW Sec. 20-14n-24.
Drlg. 3,095 ft.
Emmons et al's No. 1, 220 ft. W of E line and 2,140 ft. N of S line, Sec. 6-20-18.
Drlg. 2,150 ft.
F. W. Pennock et al's No. 1 Nordheim, NW NE NE Sec. 6-21n-18e.
S.D. 480 ft. (corrected).
E. A. Fenholt's No. 1, NW NW SW Sec. 24-21n-17e.
Rigging up.
Judith Operating Co.'s No. 1 Government, C SW SW Sec. 26-22n-17e.
Drlg. at 400 ft.

Gallatin County

Ben W. Ryan's No. 1 Tice, NE NE NE Sec. 28-1n-2e.
Drlg. 2,618 ft.

Glacier County

Three completions and three new locations were made in the Cut Bank Field. Two of the new wells are important completions, extending the proven area two miles to the north of the nearest producers. The largest of these was the Montana Power Gas Co.'s No. 1 Hall, C SW SE Section 35-36-6w, which swabbed 312 bbls. first 24 hours, a better-than-average well, at a total depth of 3,050 feet, and the farthest north of any well in the field. The Sunburst sand was dry at 2,955-65 feet and the top of the Cut Bank was at 2,975 feet. The pay was at 3,025-50 feet and the elevation is 4,035 feet.

The Texas Co.'s No. 1 Mueller, W SW SW Section 2-35-6w, close to the Indian reservation line and between the No. 1 Hall and the nearest producer, is rated at 25 bbls. a day from the pay at 2,970-3,010 feet. It swabbed 57 bbls. first 17 hours. It was drilled to 3,020 feet and plugged back to 3,015 feet. The elevation is 3,979 feet.

The Montana Power Gas Co.'s No. 1 Reagan, 660 feet W of C Section 28-35-5w, in the gas area, was completed at 2,705 feet for 17,500,000 feet a day. The Sunburst at 2,575-2,600 feet was dry. The top of the Cut Bank was at 2,627 feet and it stopped in the top of the Ellis at 2,705 feet.

A. B. Cobb's No. 5 Walberger, C NE SE Sec. 35-35n-6w.
Rig.
Cobb-Pardee's No. 1 Morrison, 1,980 ft. S of N line and 475 ft. E of W line Sec. 24-33n-6w.
Bldg. rig (first report).
C. P. Castle's No. 3 State, C NW SW Sec. 36-35-6w.
Drlg. 2,815 ft.
Chas. Grant's No. 1 Askins, Lot 24, Blk. 33, Sec. 12-33-6w.
Drlg. 2,720 ft.
Consolidated Gas Co.'s No. 10 Tribal, Lot 6 (SW SW NE) Sec. 34-35-6w.
T.D. 2,660 ft.; fshg. for tools.
Consolidated Oil Co.'s No. 9 Tribal, Lot 5 (SW NW NE), Sec. 34-35-6w.
Cmtd. 7-in. at 2,855 ft.
Fowler et al's No. 1 Tweedy, SW SE SE Sec. 25-33-6w.
Drlg. 500 ft.; Colo. 415 ft.; 10-in. at 436 ft.
L. R. Hannah, tr.'s No. 2 State, 93 ft. from E line and 158 ft. from N line, Sec. 12-33n-6w.
Drlg. 2,865 ft.
R. C. Tarrant's No. 1 Thacker Bond & Mtg., C NW NW Sec. 27-32-5w.
Drlg. 700 ft.; Colo. at 420 ft.; 10-in. at 431 ft.
Montana Headlight Oil Co.'s No. 1 Allison, C SE NE Sec. 29-34-6w.
Drlg. 1,000 ft.
Montana Power Gas Co.'s No. 1 Maltby, C SE NE Sec. 5-33n-5w.
Drlg. 2,400 ft.
Montana Power Co.'s No. 1 Neumuth Unit, 2,640 ft. N of S line, 1,000 ft. E of W line, Sec. 29-35n-5w.
Rigging.
Royalite Co.'s No. 1 Hagen, NW SW Sec. 4-31n-7w.
Location (first report).
McCabe & Jeffries' No. 2 Government, SW NE SE Sec. 32-35n-5w.
Drlg. 1,200 ft. (formerly Santa Rita).
Santa Rita O. & G. Co.'s No. 1 Jacobson, C NE SW Sec. 8-33n-5w.
Drlg. 1,430 ft.
R. C. Tarrant's No. 4 Miller, 100 ft. N of C SE NE Sec. 24-34n-6w.
Rig up; location changed.
R. C. Tarrant's No. 3 Getty, NW NW SE Sec. 2-34-6w.
Spudding 350 ft.
R. C. Tarrant's No. 5 Britton, C NW SW Sec. 13-34n-6w.
Colo. at 440 ft.; 10-in. at 460 ft.
R. C. Tarrant's No. 6 Haglund, Jr., C SE NW Sec. 13-34-6w.
7-in. at 2,792 ft.; ready to drill in.
R. C. Tarrant's No. 3 Williams, C SE NE Sec. 11-34n-6w.
Rigging.
R. C. Tarrant's No. 2 Yunck, CEL NW Sec. 12-34n-6w.
Drlg. 2,400 ft.
Texas Co.'s No. 2 Peterson, C SW Sec. 23-36n-5w.
Stdg. cmtd. 2,795 ft.; M.I. spudder.
Texas Co.'s No. 5 Morrison, NW NE NW Sec. 22-35n-6w.
Location (first report).
Texas Co.'s No. 2 Long, SW NE SW Sec. 23-35n-6w.
T.D. 2,804 ft.; 7-in. at 2,802 ft.
Watson & Kistner's No. 1 Britton, C SE SE Sec. 14-34n-6w.
Drlg. 2,500 ft.
Yukon Oil Co.'s No. 1 Federal Land Bank, 440 ft. N and 666 ft. W of SE SW Sec. 11-34n-6w.
Location.

Hill County

Independent Natural Gas Co.'s No. 1 Morphey, CEL SW SW Sec. 14-32n-17e.
T.D. 1,100 ft.; fishing for tools.

Liberty County

Western Natural Gas Co.'s No. 1 Wallace, C SW NW Sec. 15-37n-4e.
Drlg. 1,305 ft.

Park County

Ben W. Ryan et al's No. 1, NE Sec. 28-2n-11w.
Ready to spud.

Phillips County

Phillips Dev. Co.'s No. 6 Government, NW SW Sec. 21-24n-34e.
S.D. 659 ft.; show gas at 568-604 ft.; water at 650-59 ft.

Stillwater County

Continental Oil Co.'s No. 1 Parker, 500 ft. N of S line and 660 ft. E of W line, SE Sec. 25-5s-17e.
Drlg. 2,283 ft.; base Frontier at 2,167 ft.

Toole County

There were no completions in the Kevin-Sunburst Field. Three new operations were reported, two of which were by the Ohio Oil Co., the first drilling done by that company in the field in several years.

Big West Oil Co.'s No. 1 Engle, C NE SE Sec. 2-35n-2w.
Drlg. 900 ft. (first report).
Carscallen & Mitchener's No. 1 Kreuger, C S half NE Sec. 10-34n-2w.
Drlg. 800 ft.
A. C. Crumley's No. 7 Shaw, NE SE SE Sec. 25-36n-2w.
Drlg. 1,200 ft.
Cassidy and Cassidy's No. 1 Veitch, 220 ft. W of E line, 660 ft. N of S line, Sec. 31-35-2w.
T.D. 1,630 ft.; fshg. for tools.
Coolidge & Coolidge's No. 3 Government, 1,980 ft. N of S line and 1,100 ft. W of E line, Sec. 35-36n-2w.
Drlg. 1,755 ft.
Imperial-Craig Oil Co.'s No. 17 Bloom, Sec. 19-35n-1w.
Drlg. 515 ft.
Fred R. Mauger's No. 1 Government, SW NE NW Sec. 12-35-2w.
S.D. 300 ft.
W. M. Hanlon's No. 3, SW NW SE Sec. 27-35n-3w.
Drlg. 1,712 ft. (first report).
Monopeg Oil, Ltd.'s No. 3 Dipple, S SW NW Sec. 28-35-1w.
Sidetracked tools, 1,235 ft.; repairing rig.
Mon-Tex Pet. Co.'s No. 1 fee, NW SW Sec. 27-35-1w.
Cmtg. liner at 1,755 ft.
M.P.F. Co.'s No. 7 McGowan, SE NE SE Sec. 8-35n-2w.
T.D. 1,535-ft.; Ellis-Madison at 1,534-35 ft.; acidizing with 1,000 gals.
Nepstead - Montgomery - Farther's No. 1 Grass, 660 ft. W of E line and 220 ft. N of S line, Sec. 17-35n-1w.
Rigging.
Ohio Oil Co.'s No. 8 Resg, NW NW SW Sec. 14-35n-2w.
Location (first report).
Ohio Oil Co.'s No. 1 Sindon, NW NW NW Sec. 1-35n-2w.
M.I. machine (first report).
Pfabe & Engleking's No. 10 Government, SW SW SE Sec. 19-35n-2w.
Drlg. 400 ft.
E. O. Reickhorr's No. 2 Government, SW SW NE Sec. 3-35-3w.
S.D. 1,030 ft.
Stock Brothers' No. 3 Haggerty, NW SW SW Sec. 13-35n-2w.
Drlg. 1,320 ft.
C. Leonard Smith's No. 1 Eckhoff, C SE Sec. 6-33n-2e.
S.D. 575 ft. for new boiler.
C. Leonard Smith's No. 1 Federal Land Bank, C NE SE Sec. 11-33n-1e.
Spudding at 175 ft.
C. Leonard Smith's No. 1 L. Halverson, C NE SE Sec. 18-3n-3e.
Drlg. 730 ft.; tested 500,000 ft. of gas at 720 ft.
C. Leonard Smith's No. 1 H. Halverson, NW NE Sec. 13-33n-2e.
Drlg. 410 ft. with Star machine.

UTAH

Grand County

Columbia Crude Co.'s No. 1 Rath, SW SE Sec. 12-25s-20e.
Drlg. 215 ft.
Utah Southern Oil Co.'s No. 1 Hyde, SE NW NW Sec 3-22n-22e.
Spudding in 15½-in. hole.

Summit County

Longwell Pet. Co.'s No. 1, SE SW SE Sec. 25-3n-5e.
Resuming at 850 ft.; trying to U.R. 16-in. to bottom to shut off water.

Utah County

Diamond Oil Co.'s No. 4 Government, CSL SE NW Sec. 16-8s-5e.
Drlg. 3,795 ft.

Washington County

Arrowhead Pet. Co.'s No. 2 Escalante, NW NW NE Sec. 19-43-15.
T.D. 4,114 ft.; P.B. to 3,250 ft.; shot and C.O.
Arrowhead Pet. Co.'s No. 1-A, SE SW NE Sec. 1-43-15.
Drlg. 1,665 ft.
Anna V. Toney's No. 1 Toney, CNL NE SE Sec. 33-40s-11w.
Drlg. 370 ft. (first report).
W. W. Toney's No. 1 Government, CNL SE SW Sec. 18-41s-12w.
Drlg. 185 ft. (first report).

NORTHWEST NEW MEXICO

An operation of more than ordinary interest, due to pioneering work being done in the development of carbon dioxide gas and manufacturing it into dry ice, is taking place on the Wilcox Dome in the Estancia Valley in Torrance County. Dean E. Winchester, consulting geologist of Denver, who plane-tabled the structure several years ago for the Munoz interests with a view to a test for oil, recently spotted another well for the operating company and this well is now drilling for the purpose of developing an additional supply of gas.

At present there are two companies operating in the field, the Estancia Valley Carbon Dioxide Development Co., which is in charge of field production, and the Witt Ice & Gas Co., which operates the manufacturing plant and markets its products. The discovery well was drilled in 1927 by the Sinco Oil Co. in its No. 1 De Hart, SE SW Section 12-7n-2e. It was drilled to 765 feet and produced some gas, but the hole was in bad shape and no reliable gauges of its capacity were made. However, it showed the presence of the gas which tested 97 per cent CO_2. The Estancia Valley Co. then drilled the second well, No. 1 Roland, SE SE Section 12, but failed to get more than a show of gas at 1,214 feet with water at 1,300 feet. Winchester was then called in and he spotted No. 2 De Hart in the SW SE of Section 12. This well was drilled last year to 1,440 feet and plugged back to 1,230 feet where it gauged 660,000 feet a day with a rock pressure of 415 pounds. The company is at present drilling its No. 1 Kellogg, NW NE Section 12 and at last reports was making hole at 570 feet.

The Witt Ice & Gas Co. built its plant for the manufacture of dry ice at Witt Station on the Atchison, Topeka & Santa Fe railroad. The gas from the well is transported to the plant through a line six miles long consisting of 3½ and 4-inch welded pipe. The pipe consists of old boiler

(Continued on Page 206)

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Lv. Chicago	12:30 PM	Nov. 8
Ar. Kansas City	10:35 PM	Nov. 8
Lv. Tulsa	12:30 PM	Nov. 8
Lv. Bartlesville	1:54 PM	Nov. 8
Lv. Kansas City	10:50 PM	Nov. 8
Ar. Newton	2:40 AM	Nov. 9
Lv. Dallas	12:20 PM	Nov. 8
Lv. Fort Worth	4:20 PM	Nov. 8
Lv. Ardmore	6:54 PM	Nov. 8
Lv. Oklahoma City	10:00 PM	Nov. 8
Lv. Ponca City	12:09 AM	Nov. 9
Ar. Newton	2:45 AM	Nov. 9
Lv. Newton	2:50 AM	Nov. 9
Ar. La Junta	9:10 AM	Nov. 9
Lv. La Junta	9:20 AM	Nov. 9
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Oklahoma Operations

By JAMES McINTYRE

GIGANTIC WELLS IN THE FITTS AND OKLAHOMA CITY FIELDS

A short distance east of the Capitol Building in Oklahoma City and in a select residential district, but not a congested one, British American Oil Co. has a well good for about 5,000 bbls. a day. It is known as No. 1 Mary Green, SW SW SW Section 23-12-3w, three and one-half blocks east of the capitol grounds.

This well found the top of the Wilcox sand at 6,328 feet and drilled in to 6,360 feet and produced from 238 to 250 bbls. through the 7-inch casing set at the top of the Wilcox sand. It is proposed to drill this well about 150 feet deeper, making the total depth when completed about 6,510 feet.

The surface elevation of this well is 1,212 feet and the top of the Wilcox was encountered at 5,116 feet below sea level, or approximately 284 feet above the original water level of —5,400 feet for the Wilcox sand in the area south of this well.

This section of Wilcox sand was cored and shows 85 per cent saturation with a porosity of 25 per cent. Bottom hole pressure is about 600 pounds. The well made between 2,000,000 and 3,000,000 feet of gas along with the oil on the preliminary test. It will be tubed and prepared for official test after the hole has been deepened to about 5,298 feet below sea level.

From all indications this well is in the same Wilcox zone from which the other wells to the south are producing and does not open any new pool or an extension from Britton Pool to the northwest for dry holes have been drilled on the west side of the fault north of this well. While there is still some undrilled area between the northernmost wells in the Oklahoma Field and British American's No. 1. Mary Green the bottom hole pressure, type of sand, porosity and saturation and general conditions point to this being a north extension of the Wilcox sand zone rather than opening a new pool or extending the Britton Pool to the south.

The well was making about four-tenths of 1 per cent of sand along with such oil as was produced, a characteristic of the big wells in the field south of it.

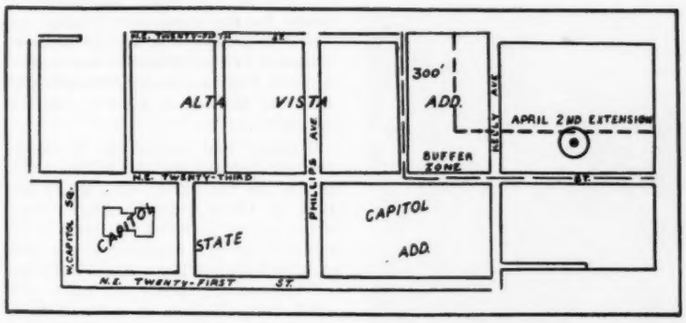
Leasers were busy ever since Thursday trying to sew up acreage north and west of the well. The area south of it is outside of the zone in which operating is permitted, and there is much opposition to extending permission to develop that part of the city which is more closely settled as one goes south toward the business end of town.

However, about 300 acres of land is made to look very inviting after the performance of the British-American's well. When pipe line connections have been made and the oil above ground removed No. 1 Green will be deepened and the real worth of the test will be made known by a potential gauge.

Marathon Oil Co.'s No. 7 in SE NW SE Section 31-14-3w, in the Edmond Pool, Oklahoma County, flowed 863 bbls. in one hour and 18 minutes from second Wilcox sand at 6,555-6,690 feet.

22,000-Bbl. Well

Phillips Petroleum Co.'s No. 3 Traders Compress, 540 feet from south and 830 feet from east lines of SW ¼ Section 36-12-3w, made a potential production of 22,036 bbls. and 14,200,000 feet of gas from Wilcox sand topped at 6,235 feet and bottomed at 6,436 feet, still in the sand. It flowed 5,509 bbls. in six hours, best hour's record 953 bbls. It was completed.



British American Oil Co.'s big well, three blocks from the Oklahoma State Capitol and in residential zone

Location has been abandoned for Burns Oil Co.'s No. 1 Owens, 810 feet from north and 820 feet from east lines of SE ¼ Section 29-13-3w.

Slick, Urschel, Inc., and others' No. 1 Zielny, 390 feet south and 340 feet west of C Section 29-13-3w, was abandoned in Oswego lime at 6,240-50 feet. It had been drilled to 6,491 feet and found nothing but water.

Nemaha Oil Co. completed No. 1 Herrod, 1,120 feet north and 1,050 feet west of C Section 35-12-3w. It flowed 100 bbls. per day through tubing from School Land sand at 6,300-6,450 feet and Hammerhandle sand at 6,450-72 feet.

Fairfax Oil Corp.'s No. 1 Bracht, 419 feet N and 1,205 E of SW cor. Section 23-12-3w, Oklahoma City, rig up; (this is a short distance from the big new well of British American Oil Co.'s No. 1 Mary Green, and on a 3,588-acre lease); same company's No. 2 Bracht, 1,240 feet E and 1,030 feet N of SW cor. Section 23-12-3w, digging pits and cellar; Phillips Petroleum Co.'s No. 4 Traders Compress, 990 feet from E and 943 feet from S lines of SW quarter Section 36-12-3w, location.

Greater Seminole Area

Completions in the Greater Seminole district included these wells, with their initial record:

Carter Oil Co.'s No. 1 Hudson, C NW SW Section 1-11-8, Seminole County, abandoned at 3,973 feet. It produced mostly water after a 4,000-gallon acid treatment, from Hunton lime, topped at 3,919 feet.

Carter Oil Co.'s No. 1 Lucas, C W half SE SW Section 14-10-6, Seminole County, 155 bbls. of oil through 1-inch choke in 24 hours from Misener sand and Hunton lime topped at 4,184 and 4,200 feet, respectively.

Magnolia Petroleum Co.'s No. 2 Brown, C E half SW NW Section 14-10-6, 709 bbls. in 14 hours through casing from Misener sand at 4,140-55 feet.

Sinclair Prairie Oil Co.'s No. 2 Calkins, SW NW SW Section 17-9-6, Seminole County, hole full of water at 2,680-85 feet, and abandoned. It had been plugged back from 4,211 feet.

Potco Oil Co.'s No. 2 Dixon, SE NE NW Section 12-9-8, Hughes County, 50 bbls. initially from Calvin sand at 1,445-79 feet.

Commercial Drilling Co.'s No. 1 Brandenburg, NE SW NE Section 3-7-4, St. Louis Field, Pottawatomie County, swabbed and flowed 1,020 bbls. in 24 hours and 2,080 bbls. in 48 hours, from Viola lime at 4,000-52 feet.

Shell Petroleum Corp.'s No. 2 Hines, SE SW NW Section 22-7-4, deepened from 3,798 feet to Dolomite at 4,228-55 feet, was acidized with an oil load and later swabbed and flowed 170 bbls. of oil net in 24 hours. It also produced 250 bbls. of water.

Shell Petroleum Corp.'s No. 1 Glass, NW NW SE Section 26-7-6, Seminole County, plugged back from 3,222 to 3,050-80 feet was dry and abandoned.

Malarnee's No. 1-A Wood, SE SE SE Section 28-7-6, pumped 43 bbls. in 24 hours from Booch sand at 2,809-13 feet.

Earl Sadler's No. 1 Scott, NW cor. Section 23-7-9, Hughes County, was a hole full of water at 1,280-83 feet and was abandoned.

Burke-Greis Oil Co.'s No. 3 Jackson, 758 feet north and 150 feet east of SW cor. Section 29-7-8, pumped 70 bbls. in six hours from Dolomite at 4,114-61 feet.

J. H. Vinson and others' No. 3 Davis, SE SW NE Section 30-7-8, swabbed 39 bbls. of oil and 75 bbls. of water from Dolomite bottomed at 4,164 feet, top not available.

Mudge Oil Co.'s No. 4 Heard, NW SE NW Section 9-6-7, Seminole County, was a hole full of water at 1,950 feet and was abandoned.

Magnolia Petroleum Co. made a location for No. 2 Browning, C W half SE NW Section 14-10-6, Seminole County; Barnsdall Oil Co., deepening No. 1 Lowry, SW NW NW Section 29-8-4, Pottawatomie County, old total depth 4,371 feet, drilling at 4,692 feet, in Viola lime; Maud Oil & Gas Co.'s No. 1 Smith, NE NE SW Section 2-7-4, Pottawatomie County, rigging up standard tools to deepen from 4,123 feet; Fortune and others' No. 1 Harjo, NE NW SW Section 11-6-6, Seminole County, drilling at 1,001 feet.

Daily Production

The estimated daily average production of Oklahoma for the week ending October 5:

Tonkawa-Garber-Thomas	5,800
Burbank	8,400
South Burbank	12,250
Balance Osage	24,500
Blackwell district	4,775
Lucien	9,750
Crescent	4,800
Marshall-Lovell	1,000
Polo	3,200
Chandler	4,500
Yale-Jennings	4,400
Cushing-Shamrock	13,000
Davenport	600
Bristow-Slick	9,000
Cromwell	4,225
Wewoka	3,450
Papoose	1,200
Keokuk	1,875
Searight	4,275
Seminole	10,900
East Seminole	1,200
Bowlegs	10,075
Earlsboro	8,550
South Earlsboro	950
East Earlsboro	9,875
Little River	15,200
East Little River	825
Carr City	3,150
Maud	1,100
Mission	3,000
St. Louis-Pearson	22,950
Asher	325
West Asher	775
Konawa	1,725
Gray	1,700
Fish	8,500
Holdenville	1,375
Sasakwa	1,050
Sasakwa Townsite	1,825
Allen	7,250
Oklahoma City	131,600
Edmond	3,400
Fitts	19,950
Tatums	4,550
Duncan district	4,600
Sholem Alechem	4,100
Graham	4,300
Healdton	9,400
Hewitt	4,750
Others	55,500
Total	475,450

Reynolds Drilling Co.'s No. 1-A Fleetborn, SE NW SE Section 13-6-7, Sasakwa Pool, was acidized, with an oil load, and later flowed 35 bbls. of oil in 15 hours.

Atlantic Oil Producing Co.'s No. 1

Vierson, NE SW SE Section 8-6-7, in the Wofford Pool, Seminole County, swabbed 40 bbls. of oil and 75 bbls. of water in 24 hours from Dolomite at 3,889-94 feet. It was drilling at 3,994 feet.

Magnolia Petroleum Co.'s No. 6 Denby, SW cor. SE SE NW Section 11-7-6, Little River Pool, had Booch sand at 3,105-17 feet and produced at the rate of 11,000,000 feet of gas and 125 bbls. of oil per day.

Malarnee and others' No. 1 West Estate, SE SE NW Section 33-7-6, pumped 117 bbls. of oil in 24 hours from pay at 2,949-59 feet, which had been shot.

E. W. Jones and Tom Phillips' No. 1 Morton, SW NE SW Section 36-8-4, in the St. Louis area, Pottawatomie County, swabbed 400 bbls. of oil net in 16 hours, following an acid treatment in Hunton lime at 3,923-4,003 feet.

Manahan Oil Co.'s No. 1 Oliphant, NW NW SE Section 12-9-8, Olympic Pool, Hughes County, swabbed 138 bbls. in 24 hours from sand at 1,728-46 feet.

In the Fitts Pool

Completions in the Fitts Pool in the past week included:

Magnolia Petroleum Co.'s No. 7 Schaffer, NE SW NW Section 25-2-6, Bromide at 4,245 feet sands at 4,333 and 4,412 feet, total depth 4,418 feet, plugged back to 4,405 feet, treated with 3,000 gallons of acid, given a potential of 2,120 bbls. of oil and 641,-000 feet of gas.

Amerada Petroleum Corp.'s No. 2 Norris, 330 feet from south and 1,155 feet from west lines of SE ¼ Section 26-2-6, potential of 3,361 bbls. of oil and 1,500,000 feet of gas from Bromide sands at 4,250-75 and 4,315-65 feet. McLish was topped at 4,373-82 feet, total depth.

J. G. Catlett's No. 1 Smith, SW SW NW Section 28-2-7, Bromide at 4,050-65 feet and 4,120-65 feet, McLish at 4,165-74 feet, total depth; potential production, 946 bbls. It flowed 261 bbls. in six hours through tubing.

Moore and others' No. 2 McKoy, NW SW SW Section 28-2-7, is a Bromide and McLish producer completed. It was given a potential of 2,211 bbls. and 1,000,000 feet of gas. McLish sands were topped at 4,000 and 4,060 feet, and McLish at 4,105 feet, total depth 4,357 feet.

Moore and others' No. 3 Harper, NE SW NE Section 29-2-7, is a Hunton lime completion. It produced 377 bbls. in 48 hours at 3,390-3,672 feet.

Moore and others' No. 1 McKoy, NE SE SE Section 29-2-7, was given a potential of 2,291 bbls. and 1,000 feet of gas, producing from both Bromide and McLish sands. First Bromide sand lay at 4,035 feet, second at 4,095 feet, McLish at 4,144 feet, total depth 4,350 feet.

Moore and others' No. 7 Woodruff, SW NE SE Section 29-2-7, made a potential of 4,422 bbls. and 3,000,000 feet of gas producing from Bromide sands topped at 3,995 and 4,060 feet, total depth 4,095 feet.

The south end of the Fitts Pool presented the surprise well of the week in Oklahoma, when Skelly Oil Co.'s No. 1 Smith, NE NE NE Section 35-2-6, came in with a production of 1,376 bbls. through casing in one hour, or at the rate of 33,024 bbls. per day. It then flowed 236 bbls. in one hour through tubing. The well is one of the most southwesterly wells in the field and marks the farthest west of the line of wells of which it is one. Bromide was topped at 4,210 feet; sands at 4,305 and 4,380 feet and McLish at 4,434-87 feet, total depth.

Delaney and others' No. 2 Smith, SW cor. Section 25-2-6, northwest offset to the big Skelly well, made 446 bbls. in three hours through tubing after it had produced 603 bbls. in 20 minutes through casing or at the rate of 1,500 bbls. per hour. It got Bromide at 4,145 feet; sands at 4,235 and 4,305 feet, McLish at 4,336-60 feet, total depth.

Fleetborn Oil Co.'s No. 1 Smith, NW SE NE Section 31-2-7, was acidized and flowed 546 bbls. in eight hours. It was producing from Bromide sands.

Moore and others deepened No. 4 Schauers, SE SW NW Section 29-2-7, from 4,207 feet (17 feet in McLish) to 4,332 feet. While coming out of the hole the well flowed 46 bbls. the first hour, 204 bbls. the second hour, 773 bbls. the third hour and 234 bbls. the fourth hour. It was to be acidized.

Moore and others deepened No. 5 Wirick, SW SW SE Section 29-2-7, from 4,044 feet, 7 feet in McLish, to 4,307 feet and acidized it with 4,000 gallons. It had not been tested. Same operator was getting ready to deepen No. 5 Woodruff, NE NE SE Section 29-2-7, from 4,186 feet, 41 feet in McLish, using a Hydril.

Continental Oil Co.'s No. 1 McCarty, C SE SW Section 12-1-7, had Bromide at 4,155 feet. At 4,326 feet it gauged 6,000,000 feet of gas. It had a faint showing of oil at 4,330 feet and was drilling at 4,351 feet. The well is now being drilled on day tour only which makes progress slow. Bromide sands were reported topped at 4,319 feet and 4,337 feet.

Another test will be started in Coal County soon as Southern Oil Co. was digging pits for No. 1 Fish, SW SW SW Section 6-1n-8.

Gypsy Oil Co. started its wildcat test No. 1 Emry, SW SW NE Section 15-2-6 and was drilling at 582 feet.

Bishop Oil Co.'s No. 1 Schaffer, SE NE NW Section 25-2-6 was still not completed. It swabbed and flowed 111 bbls. of oil in 18 hours and was drilling at 4,390 feet. It had swabbed and flowed 300 bbls. in 24 hours 4,320 feet. Viola lime was topped at 4,079 feet, but no Bromide had yet been reported.

Skelly Oil Co.'s No. 1 G. Smith, NE cor. Section 35-2-6, had Bromide at 4,210 feet, sands at 4,305 and 4,380 feet and McLish at 4,436-62 feet.

Amerada Petroleum Corp's No. 2 Smith, NE SW NW Section 28-2-7, which had McLish at 4,179 feet and drilled to 4,321 feet, was shut in for five hours and when opened flowed 2,778 bbls. in 6 hours and 15 minutes through casing and was then shut in.

Carter Oil Co.'s No. 2 G. F. Smith, NW NW SW Section 28-2-7 was shut down at 4,165 feet 10 feet on McLish lime with no showing reported.

Same company's No. 3 Smith, SW NW SW Section 28-2-7 after drilling into water at 4,450 feet plugged back to 4,350 feet. It had flowed 350 bbls. in 20 minutes, then started producing water along with the oil. Top of the McLish is at 4,195 feet.

Moore and others' No. 4 Harper, NW SW NE Section 29-2-7 had Bromide at 4,100 feet, and at 4,325 feet flowed 305 bbls. of oil in 30 minutes.

Moore and others' No. 3 McKoy, NW SE SE Section 29-2-7, flowed 144 bbls. in one hour from Bromide sand at 4,127 feet.

Fleetborn Oil Co.'s No. 1 Smith, NW SE NE Section 31-3-7 was given a 4,000-gallon acid treatment at a total depth of 4,363 feet. It later flowed one head of 45 bbls. and quit. Top of the McLish was at 4,155 feet.

Osage County

Completions in Osage County included the following wells:

Enterprise Transit Co.'s No. 5 Mosier, 330 feet S and 940 feet W of NE cor. Section 34-26-6, sand at 2,845-2,930 feet, flowed 934 bbls. in 24 hours following a 140-quart shot.

Philtex Oil Co.'s No. 58, SW cor. NW NW Section 22-25-12, dry in Bartlesville sand at 1,410-1,511 feet and will be used as a pressure well.

Rips Oil Supply Co.'s No. 6, 900 feet N and W of SE cor. Section 26-23-10, abandoned at 1,758 feet after a hopeless fishing job. It was an old well deepened from 1,400 feet.

Barnsdall Oil Co.'s No. 19, 1,093 feet N and 869 W of SE cor. Section 18-23-12, completed as pressure well at 1,555 feet. It had dry sand at 1,416-1,555 feet.

Comail Oil Co.'s No. 9, 932 feet S and 795 E of SW quarter Section 32-22-8, Bartlesville sand at 2,245-2,305 feet, pumped 47 bbls. of oil and 200 bbls. of water.

Elliott and Bay Oil Co.'s No. 2-A, 980 feet from N and 750 feet from E lines of SE quarter Section 33-22-11, dry and abandoned in Siliceous lime at 2,049-2,134 feet.

Gray & Tolson's No. 9, 1,295 feet from N and W lines of SW quarter Section 27-21-9, Layton sand at 1,117-31 feet, shot with 40 quarts, pumped 25 bbls.

W. C. Norris' No. 20, 1,050 feet S and 55 feet E of NW cor. Section 10-20-12, shot with 120 quarts at 1,314-44 feet. Pumped 20 bbls.

Victor H. Martin and others' No. 1-A Houston, NE cor. Section 10-20-6, sand at 1,060-74 feet, shot with 30 quarts 750,000 foot gasser.

Kewanee Oil & Gas Co. has cellar dug for No. 1, SW SW SW Section

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26-26-6, and for No. 1, SE SE SE Section 27-26-6. Carter Oil Co. and others have cellar dug for the following wells: No. 9 Ducotey, 1,295 feet south and 25 east of C Section 3-25-6; No. 12 Ducotey, 1,295 feet south and 1,015 feet west of C Section 3-25-6; No. 6 Higdon, 660 feet from east and 1,295 feet from south lines of NE ¼ Section 3-25-6; No. 10 Higdon, 330 feet south and 1,295 feet west of NE cor. Section 3-25-6; No. 8 Adlum, 1,295 feet from north and east lines of NW ¼ Section 10-25-6. Lewis Production Co. and Texas Co. made a location for No. 1 Claremore, NE cor. SE Section 17-24-7. Lewis Production Co. made location for No. 7, NW cor. SW Section 21-24-7. Barnsdall Oil Co. was moving in material for No. 2, SW cor. NW SE Section 23-24-10. Midco Oil Corp. made location for No. 4, 810 feet north and 250 feet east of SW cor. Section 17-22-10.

Southern Fields

J. C. Wilkinson and others abandoned No. 3 Gilbreth, 1,280 feet N and 1,270 feet W of SE cor. Section 5-1-15, Atoka County at 348 feet.

Schmererhorn Oil Co. abandoned No. 14 Cruce-Smith, 1,170 feet N and 215 feet E of SW cor. Section 5-4s-3w, Carter County, at 1,323 feet. It made mostly water from sand at 1,265-80 feet.

Nocona Products Co.'s No. 1 Penniston, 30 feet N and 175 feet W of C Section 16-7s-5w, Marshall County, was completed a 4-bbl. well at 740-58 feet.

B. B. Bacon's No. 3 Fahy, 760 feet N and 225 E of SW cor. section 21-2-10w, Comanche County, is a 1,000,000 foot gasser, completed for fuel. It produces from sand at 441-63 feet.

Seils and Cumeges' No. 1 American National Bank, SW cor. NW Section 21-2-10w, was abandoned at 905 feet in Red Bed. It was dry at 890-95 feet.

Manson and others' No. 1 Minor A, NW NE NE Section 15-1n-20w, Jackson County, was completed in Granite Wash at 1,500-33 feet. It was good for 25 bbls. initially.

Gypsy Oil Co.'s No. 1 Boucher, NW SW SW Section 32-1n-19w, in Jackson County which caused a lot of interest when it was reported in last week was completed. It flowed 567 bbls. through 5½-inch casing in 24 hours from pay at 2,593-2,606 feet, total depth 2,607 feet in shale. It opened a pool in the Canyon sand.

New work in southern fields includes the following:

Phelps, Coats and others' No. 1 Fidelity Life, SE SW NW Section 23-1s-12, Atoka County, rigging up machine; Sinclair Prairie Oil Co.'s No. 22 Million-Thomas, SE cor. NW SW SE Section 5-4s-3w, Carter County, old well bottomed at 1,700 feet, cleaning out to deepen; Schermerhorn Oil Co.'s No. 11 Frazier, NW cor. NE SW SW Section 15-4s-3w, Carter County, machine; Myrtle Green's No. 4 Green, SE cor. NE NE SE Section 27-1s-5w, Stephens County, location; Mudge Oil Co.'s No. 2 Cox and others, NE SE NW Section 25-1s-3w, Carter County, location; Gypsy Oil Co.'s No. 2 Circle, SW SW NW Section 11-1n-20w, Jackson County, cellar and pits. O. P. Burnham and others' No. 1 Huyman, NW NW SW Section 14-1n-20w, cellar and pits.

Wasteka Oil Co.'s No. 1 Milton, SW cor. SW SE Section 26-6-10w in Caddo County was drilling below 4,134 feet. Marathon Oil Co.'s No. 3 Marcland, SE SW NW Section 2-5-9w, had gas sand at 5,360-5,430 feet, total depth and tested 10,000,000 feet of gas. The well may be deepened.

John Nicholas made a location for No. 1 Householder, NE NE SW Section 8-2n-10w Comanche County, a wildcat test.

Creek County

Creek County completions included Powers & Quinlan's No. 1-A Anthis, NE NE NW Section 25-19-8, 20 bbls. at 2,363-72 feet; Semple & Mann's No. 2 Rentie, NW SE SE Section 32-19-9, 76 bbls. at 2,951-83 feet; Tom Phillips' No. 1-A Riverbed, NW NW SE Section 8-18-7, 25 bbls. at 2,295-2,301 feet; C. O. Buckles' No. 2 Franklin, NW NW NE Section 22-18-8 100 bbls. at 1,375-1,430 feet, Layton sand, shot with 200 quarts; Shell Creek Oil Co.'s No. 1-A Fry, SE NW SE Section 14-17-8, deepened from 2,273 feet to 2,734-44 feet, pumped 27 bbls. in eight hours; E. Adams' No. 2 Hilton, SW NE NE Section 12-17-9, dry and abandoned at 1,980 feet.

Logan County

Anderson & Prichard and others' No. 1 Cavalt, NW SW SE Section 22-16-3w was abandoned at 6,330 feet. Both Wilcox sands topped at 6,215 and 6,310 feet were dry.

Lincoln County

Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Dawson, NW NW NW Section 4-14-3, Lincoln County, flowed 572 bbls. in 24 hours from Wilcox sand at 5,085-5,105 feet and was completed.

The Texas Co. completed No. 4 Hoover, SE NW SE Section 33-14-4 in Cleveland sand at 3,061-75 feet. It flowed 45 bbls. in 24 hours.

The Texas Co.'s No. 1 Niccum, SE SW NW Section 28-14-5, a wildcat, was dry and abandoned at 3,534 feet.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 3 Dawson, NE SE NW Section 4-14-3, Lincoln County, is a location; J. Garfield Buell and others' No. 1 Seward, NE NW SE Section 25-14-3, location.

Northern Pontotoc County

Sunray Oil Co.'s No. 19 McCall, NE cor. Section 17-5-8 in the Allen district, Pontotoc County, was dry and abandoned at 850 feet. There was no sand.

McBride and others' wildcat No. 1 Copeland, SE SE NW Section 31-4-5 was abandoned at 2,100 feet. It had a hole full of sulfur water.

Cornell & Bradley were rigging up machine for No. 1 Gilmer SW cor. Section 14-5-8, Pontotoc County.

Garvin County

Leggett & McElreath were digging cellar for No. 1 Allie Cramp, NE NE SE Section 22-4-1w, in Garvin County, a wildcat Wilcox sand test.

Texas County

Cabot Carbon Co. was drilling at 1,500 feet in No. 1 Mathews, C NW Section 8-3n-15e, Cimmaron Meridian, Texas County, in the Panhandle. It is a test for gas.

Kay County

A. D. Morton has rig up for No. 1 Warren, SE SE NW Section 19-29-4, Kay County, a wildcat. Home Natural Gas Co. was drilling at 450 feet in No. 1-A Smith, C NE NE Section 7-28-1e.

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Write for Bulletin F-310-2

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Kansas Developments

By JAMES McINTYRE

RUSSELL COUNTY DISCOVERY WELL SHOWS 700 BBLS. DAILY

Brouk, Bailey and others' test No. 1, Kleusner, which opened a pool in NW NW SE Section 34-15-12w, in southern Russell County, was given a pumping test on Saturday and produced 392½ bbls. of oil in 13½ hours actual pumping time, showing it to be good for about 700 bbls. a day. It had previously pumped 325 bbls. in 15 hours. The oil is 41 degrees in gravity at a temperature of 73°F. It is not yet a completion but this is the best test the well has had since it came in a few weeks ago.

Amerada Petroleum Corp. and Sunray Oil Co.'s No. 13-A Gassaway in the Oxford Pool was given a 15,609-bbl. potential on the strength of a three-hour gauge. A number of wells in the pool are in Dolomite and should be returned as completions this week.

Daily Production

The average daily production in Kansas for the week ending October 5 follows:

Lorraine	7,375
Burrton-Haury	17,775
Chase	10,575
Raymond	3,150
Russell County	11,575
Elbing	1,125
Eldorado-Towanda	10,850
Oxford City	4,875
Augusta	1,875
Sedgwick	7,950
Rainbow Bend	1,100
Voshell	3,575
Nikkel	2,575
Ritz-Canton	9,300
Hollow	3,150
Greenwood	10,750
Others	36,775
Total	143,450

Cowley County

Lassen and others' No. 2 Ferguson, SW SW NE Section 21-30-8, Cowley County, is a 20-bbl. completion in Mississippi lime at 2,179-2,214 feet.

Alma Petroleum Co.'s No. 2 Cadwell, SW SE NE Section 7-35-3, had 1,500 feet of oil in the hole from sand at 3,450 feet, total depth 3,506 feet.

Sumner County

Amerada Petroleum Corp. and Sunray Oil Co. completed No. 13-A Gassoway, 213 feet from south and 610 feet from east lines of SW ¼ Section 14-32-2, in the Oxford Pool, Sumner County. Based on a three-hour gauge, it was given a potential production of 15,609 bbls. in 24 hours from Simpson Dolomite at 2,803-82 feet, total depth.

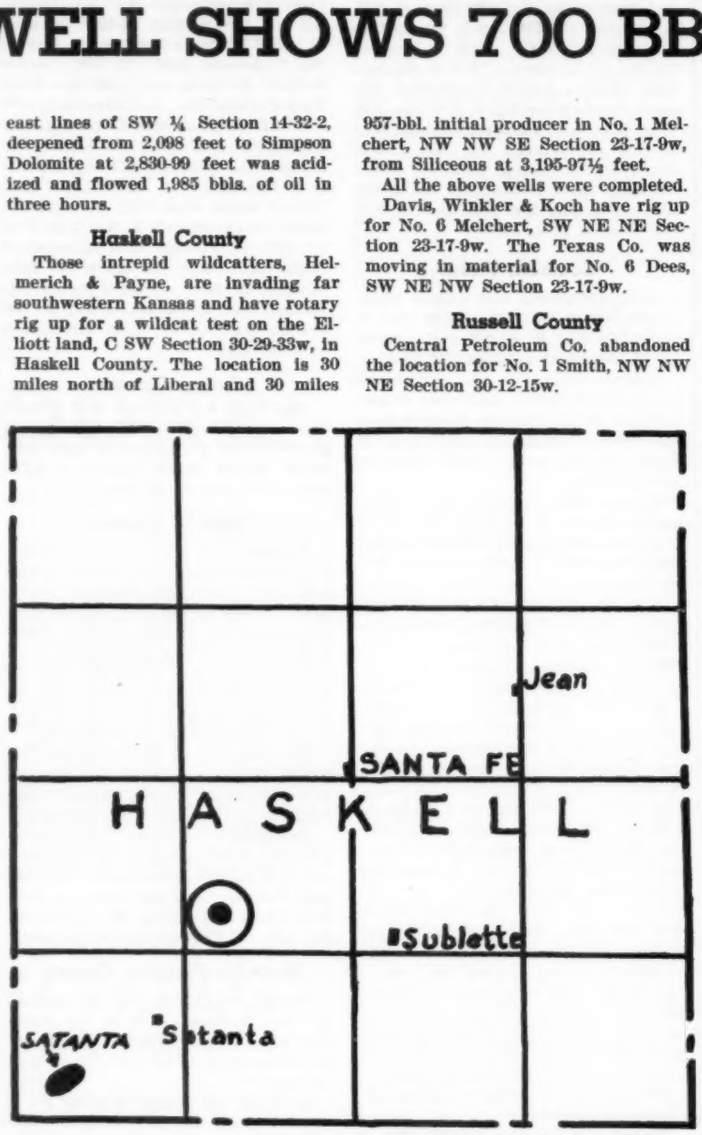
Shell Petroleum Corp. completed No. 1 Buffington, in SE SW NE Section 14-32-2. It made a potential of 587 bbls. of oil and 15 bbls. of water from Dolomite at 2,939-50 feet.

Edler & Wolfe and others have cellar dug for No. 1, NW cor. of Lot 18, Block 10, SE NE SE Section 11-32-2, in Oxford. Shell Petroleum Corp. has cellar dug for No. 4 Nebitt, NE cor. SW NE Section 14-32-2.

Amerada Petroleum Corp. and Sunray Oil Co.'s No. 3 Gassoway, 1,100 feet from south and 685 feet from east lines of SW ¼ Section 14-32-2, deepened from 2,098 feet to Simpson Dolomite at 2,830-99 feet was acidized and flowed 1,985 bbls. of oil in three hours.

Haskell County

Those intrepid wildcatters, Helmerich & Payne, are invading far southwestern Kansas and have rotary rig up for a wildcat test on the Elliott land, C SW Section 30-29-33w, in Haskell County. The location is 30 miles north of Liberal and 30 miles



—Base Map by E. C. Jacobson, Tulsa.

Helmerich & Payne have rotary outfit in for a wildcat test in Haskell County, 30 miles north of Liberal

northeast of Hugoton, both the centers of gas fields, but the Helmerich & Payne test is a test for oil.

Ellsworth County

Bradley & Scanlon and others' No. 5 Mohney, SE SW SE Section 14-17-9w, in the Lorraine Pool, Ellsworth County, made a potential of 1,930 bbls. in 24 hours from Siliceous lime at 3,170-73 feet, total depth.

Empire Oil & Refining Co.'s No. 11 Rolfs, NW SW NE Section 14-17-9w, had Siliceous at 3,200-02 feet and pumped 1,751 bbls. of oil and 270 bbls. of water.

Skelly Oil Co.'s No. 4 Dees, SE SE SW Section 14-17-9w, was good for 2,203 bbls. in 24 hours from Siliceous lime at 3,167-69 feet.

Carter Oil Co. and others have a 957-bbl. initial producer in No. 1 Melchert, NW NW SE Section 23-17-9w, from Siliceous at 3,195-97½ feet.

All the above wells were completed.

Davis, Winkler & Koch have rig up for No. 6 Melchert, SW NE NE Section 23-17-9w. The Texas Co. was moving in material for No. 6 Dees, SW NE NW Section 23-17-9w.

Russell County

Central Petroleum Co. abandoned the location for No. 1 Smith, NW NW NE Section 30-12-15w.

Gypsy Oil Co.'s No. 1 Ehrlich, SW SW NW Section 1-14-15w, made a potential production of 1,169 bbls. in 17 hours from Oswald lime at 3,054-57 feet, total depth and was completed.

J. C. Schaffer, Inc.'s No. 1 Polcyn, SE SW NE Section 14-14-15w, was abandoned. It tested 10 bbls. of fluid per hour, 80 per cent water, from Oswald lime at 3,023 feet; Siliceous lime at 3,281-88 feet.

Signal Oil Co. has cellar dug for No. 1 Barry, SE SE NE Section 33-15-13w.

McPherson County

Wentz Oil Corp.'s No. 1 Holdeman, NW NW SE Section 16-18-1w, McPherson County, was dry and abandoned in Siliceous lime at 3,445-79 feet.

Shell Petroleum Corp.'s No. 6 Fleming, 1,317 feet from north and 330 feet from east lines of NW ¼ Section 11-19-2w, was completed. It made 559 bbls. the first 24 hours from Viola lime at 3,387-88 feet, with 110 bbls. of water.

Sunray Oil Co. and Sinclair Prairie Oil Co. made location for No. 1 Paterson, SW SW NW Section 29-18-2w. Shell Petroleum Corp. made location for No. 4 Hill, C E half E half NE Section 10-19-2w.

Derby Oil Co. and others' No. 2 Heibert, SW SW SE Section 5-22-3w, had Hunton lime at 3,510-46 feet. It was acidized and then shot with 40 quarts and later swabbed 40 bbls. of oil and salt water in 10 hours.

Empire Oil & Refining Co.'s No. 1 Froese, SE SE SE Section 7-22-3w, deepened from 3,556 feet to Siliceous lime at 3,598-3,607 feet, swabbed 100 bbls. of oil in eight hours.

Sunray Oil Co.'s No. 1 Ewy, SE NE SE Section 14-22-2w, found water in the Siliceous lime at 3,514-15 feet and it was to be plugged back.

Rush County

Morgan & Flynn completed a 13,000,000-foot gasser in No. 4 Hartman, SW SE NW Section 4-18-16w, Rush County, in Kansas City lime topped at 3,255 feet, but with the big gas at 3,510-39 feet, total depth.

Barton County

Continental Oil Co. made location for No. 1 Lamatsch, NE NE NE Section 26-17-12w, a wildcat in Barton County. Lebow & Bennett were building rig for No. 1 Steckel, NE NE SW Section 1-20-11w.

Magnolia Petroleum Co. was building rig for No. 1 Steckel, SE SW NE Section 1-20-11w.

Rice County

Completions in Rice County included the following wells:

Gypsy Oil Co.'s No. 3 Callis, NW SW NW Section 28-19-9w, dry and abandoned, at 3,311 feet.

Elwell and others' No. 1 Lisk, NE NE SW Section 32-19-9w, Siliceous lime at 3,257-60 feet, pumped 37 bbls. of oil and 135 bbls. of water.

Gypsy Oil Co.'s No. 1 Miller, SE SE NE Section 9-20-9w, Siliceous at 3,258-75 feet, 51 bbls. of oil and 51 bbls. of water.

Gypsy Oil Co.'s No. 2 Keesling, SW cor. Section 10-20-9w, Siliceous lime at 3,222-24 feet, acidized, 469 bbls. the first 24 hours.

Gypsy Oil Co.'s No. 2 Hartle, SW NW NW Section 15-20-9w, 1,215 bbls. initially from pay at 3,219-20 feet.

Mid-Continent Petroleum Corp.'s No. 2 Hartle, SW SW NW Section 15-20-9w, 1,512 bbls. initially from pay at 3,224-27 feet.

Slick Pryor & Lockhart had cellar dug for No. 2 Habiger, NW NW SE Section 27-18-10w. Shell Petroleum

Corp. and others were rigging up rotary for No. 7 Ploog, 1,326 feet west and 440 feet south of C Section 33-18-9w. Continental, Shell and Empire companies made a location for a wildcat test, No. 1 Buckbee, SE NW SW Section 13-18-8w, on a communitized block. Stanolind Oil & Gas Co. made a location for No. 2 Mitchell, 1,704 feet north and 90 feet east of SW cor. Section 32-10-10w. National Refining Co. and others were rigging up No. 3 Reese, SE NW SW Section 16-19-9w. Shell Petroleum Corp. and others were building rig for No. 1 Sherman A, SE SE NW Section 16-19-9w; Marathon Oil Co., building rig for No. 6 Proffitt, SE SW NW Section 5-20-9w; Continental Oil Co., a location for No. 3 Foote, NE NW SE Section 7-20-9w; Gypsy Oil Co., rigging up rotary for No. 1 Dick, NW NW SW Section 15-20-9w; Gypsy Oil Co., rigging up rotary for No. 3 Smith, SE NE NE Section 16-20-9w, and for No. 4 Smith, SE SE NE Section 16-20-9w.

Tatlock and others' No. 1 Berscheit, NW cor. Section 6-20-10w, had 2,200 feet of oil in the hole from Siliceous lime at 3,272-79 feet.

Empire Oil & Refining Co.'s No. 11 Proffitt, NE SE SE Section 6-20-9w, was acidized after the hole had filled 1,200 feet with oil in 10½ hours from pay at 3,234-48 feet.

Reno County

The Texas Co.'s No. 1 Collins, C NE NW Section 16-24-4w, is a 22,500,000 gas well completed in Chat at 3,292-3,340 feet.

Phillips Petroleum Co. and others' No. 1 State Bank, C SE SW Section 10-24-4w, pumped and flowed 141 bbls. of oil and 72 bbls. of water in 18 hours from Chat at 3,312-75 feet, but it was not completed.

Shell Petroleum Corp.'s No. 1 Reese, C W half W half SW Section 11-26-9w, tested 23 bbls. of oil and 3 bbls. of water in 20 minutes from Viola lime at 4,128-56 feet.

Stafford County

Rose Spring Drilling Co. and others' No. 1 Toland, NW NW SW Section 2-25-14w, Stafford County, was dry and abandoned at 4,301 feet. Siliceous lime was topped at 4,288 feet.

Kingman County

Skelly Oil Co.'s No. 5 Ratcliff, 990 feet from south and 440 feet from west lines of NW ¼ Section 30-27-10, Cunningham Pool, was completed in Kansas City lime at 3,403-44 feet. It was good for 142 bbls. of oil initially.

Greenwood and Woodson

Slick, Pryor & Lockhart's No. 4 Leedy, NE SW NE Section 25-22-9, Greenwood County, was dry and abandoned in Mississippi lime at 2,583-87 feet.

W. M. Moore Oil & Gas Co.'s No. 3 Pixley, C S half SE NE Section 7-22-10e, pumped 110 bbls. in 12 hours from sand at 2,300-30 feet. It was not completed.

Sedgwick County

D. R. Lauck was rigging up No. 2 Gillespie, NE NE SW Section 6-28-1w, in the Schulte Pool, Sedgwick County.

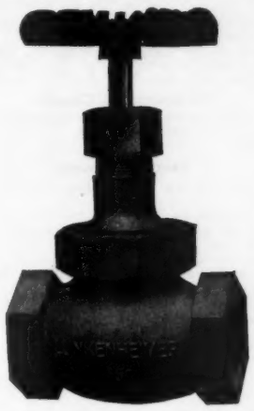
Harvey County

Goering Brothers' No. 1 Brainard, NE NE SW Section 3-23-2w, Harvey County, was dry and abandoned in Siliceous lime at 3,592-3,600 feet.

Empire Oil & Refining Co. deepened No. 1 Froese, SE SE SE Section 7-22-3w, from 3,556 feet to Siliceous lime at 3,598-3,607 feet and it swabbed 100 bbls. of oil in 12 hours.

Lunkenheimer Perfects Valve for Field Use

A new line of valves designed primarily for use on 350-pound drilling boilers and feed-water and slush



pump manifolds used in connection with deep-well rotary drilling equipment, has been placed on the market by the Lunkenheimer Co., Cincinnati, Ohio. The line includes both bronze and steel valves. Bronze valves are made in globe, gate, lift check and swing check patterns suitable for 350 pounds steam pressure at 550° F. The gas-liquid pressure is 1,000 pounds at 150° F. on all sizes of globe and check valves; 1,000 pounds on one-half to 1½-inch gate valves, and 700 pounds on the 2-inch size. Steel valves are globe, angle, gate and check patterns, 350 pounds steam pressure at 580° F.; gas-liquid pressure is 500 pounds. The valves, in addition to the services mentioned, are adapted for high-pressure oil, water and gas lines.

Crude Oil Stocks

Stocks of domestic and foreign crude at the close of the week ending September 21 totaled 306,637,000 bbls., a decline of 682,000 bbls., 547,000 and 135,000 bbls., respectively, in stocks of domestic and foreign crude.

Current reports indicate a further increase in production, a material decline in imports, and a material increase in crude runs to stills. Total demand for crude averaged 3,011,000 bbls. daily, the third successive week demand has exceeded 3,000,000 bbls. Daily average crude production is estimated at 2,835,000 bbls., or 20,000 bbls. above the average of the previous week. Daily average imports declined from 114,000 to 79,000 bbls. Daily average crude runs to stills amounted to about 2,830,000 bbls., or 130,000 bbls. above the previous week.

STOCKS OF CRUDE PETROLEUM

Grade of crude oil—	Sept. 14	Sept. 21
Pennsylvania Grade	4,871,000	4,820,000
Other Appalachian	904,000	915,000
Lima-N. E. Indiana-Michigan	1,409,000	1,428,000
Illinois-S. W. Ind.	11,421,000	11,367,000
N. La. and Ark.	10,619,000	10,599,000
W. Tex. and S.E. N. Mexico	30,384,000	30,257,000
East Texas	24,699,000	23,894,000
Other Mid-Cont.	137,106,000	136,697,000
Gulf Coast	24,636,000	25,209,000
Rocky Mountain	27,078,000	27,075,000
California	30,330,000	30,559,000
Domestic crude	303,457,000	302,910,000
Foreign crude	3,862,000	3,727,000
Total crude*	307,319,000	306,637,000

*Represents approximately 98 per cent of total stocks in the United States, exclusive of lease (producers') stocks.

Gasoline Tax Gains

SACRAMENTO, Calif., Oct. 4.—Continuing the upturn registered in July following collapse of controlled production under the NRA, California gasoline taxes for August amounted to $3,826,965.21, marking a gain of $445,524.52, or 13 per cent, over the corresponding total for the same month last year, according to Orfa Jean Shontz, State Board of Equalization member from southern California, upon completion of the tax assessments covering August distribution of oil companies.

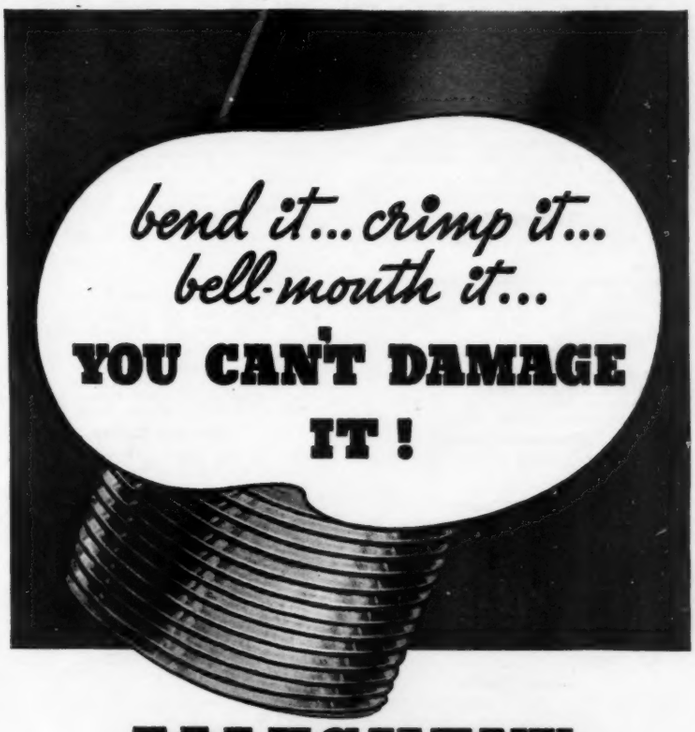
Midland Geologists

MIDLAND, Tex., Oct. 7.—At the meeting of the Midland Geological Society the principal business was discussion of the trip to Mexico City to the midyear convention of the American Association of Petroleum Geologists, Oct. 16 to 19, which a number of the members of the local society plan to attend. New members attending the meeting were Miss Helen Bird, Humble Oil & Refining Co.; James Thompson and Henson Allagood, Amerada Petroleum Corp., and R. W. Brockley, geologist for Anderson & Pritchard.

A.S.T.M. Standards

Each year A.S.T.M. Committee D-2 on Petroleum Products and Lubricants sponsors the publication under one cover of all A.S.T.M. standards pertaining to petroleum. The current edition, 1935, contains 57 test methods, six specifications and two lists of standardized definitions of terms, all of this material being given in its latest approved form.

A new method of test given for the first time covers the vapor pressure of motor and aviation gasoline (Reid method). During 1935 a number of the standard methods have been revised including test for dilution of crankcase oils, distillation of gasoline, naphtha, etc., ductility of bituminous materials, testing emulsified asphalts, flashpoint by means of the Tag closed tester.



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WILDCAT OPERATIONS

OKLAHOMA WILDCATS

Week Ending October 5

NORTHERN OKLAHOMA

Alfalfa County

Tex-O-Kan Oil Co.'s No. 1 Acre, C SW NE Sec. 14-24-11w.
T.D. 6,460 ft.; plugged back and drilling in new hole at 6,280 ft.

Beaver County

Anderson & Kerr et al's No. 1 School, C SW SE Sec. 36-5-26ECM.
R.U. rotary tools.

Beckham County

G. E. Martin's No. 1 Hood, C NE NW Sec. 7-8-23w.
Drlg. 450 ft.

Star Oil Co.'s No. 1 Blair, C NW SE Sec. 32-9-26w.
Rig and tools.

Caddo County

Denver Prod. & Ref. Co.'s No. 1 Sah-Can. C SE SE Sec. 33-10-10w.
T.D. 3,330 ft.; salt wtr.; P.B. to 3,200 ft. and csg. collapsed; cemented at 6,600 ft.

H. W. Lee et al's No. 1 Horton, NE cor Sec. 9-4-13w.
Tools recovered, T.D. 730 ft., cleaning out.

H. W. Lee et al's No. 1 Stacey Ferrell. SW NE NE Sec. 3-4-13w.
T.D. 2,506 ft.; contract comp.; S.D.

F. A. Turner et al's No. 1 Spain, NE NE SW Sec. 1-5-11w.
Hole full of water 3,112 ft.; T.D. 3,118 ft.; shut down for orders.

Cleveland County

Ann Lee Mayes, Inc.'s No. 1 Parsons, SW SW SE Sec. 30-9-1.
Rig.

Hall-Briscoe, Inc.'s No. 1 Fant, SW SW NE Sec. 27-10-2w.
T.D. 6,530 ft. in Hunton lime; cemented off 655 ft. of drill pipe; waiting on cement to set.

Coal County

Carter Oil Co. et al's No. 1 Thompson, C S½ NE NW Sec. 34-2-9.
Woodford 5,630 ft.; Hunton 5,735 ft.; Sylvan 5,881 ft., drlg. 5,910 ft.

Comanche County

Oscar Jones' No. 1-A Scheets, NE SW Sec. 26-3-10w.
Rigged up.

Garfield County

Ross Cummings et al's No. 1 Gage Est., SE NW Sec. 27-22-3w.
R.U. cable tools.

Herndon Drlg. Co. et al's No. 1 Whitaker, SE cor. Sec. 27-24-3w.
Drlg. 2,283 ft.

Garvin County

Charles Carter and W. S. Key, Inc.'s No 1 Wood, NW SW SE Sec. 5-4-3e.
S.D. 2,405 ft.

Grady County

Sayre Oil Co.'s No. 1 Anderson, NE SE SE Sec. 26-4-6w.
Spudding.

Grant County

Helmerich & Payne's No. 1 Creuse, C NE SW Sec. 29-25-8w.
Wilcox 6,615-20 ft., dry; drlg. 6,649 ft.

Shell Pet. Corp.'s No. 1 Foster, NW SE Sec. 20-27-1w.
Checkerboard lime, 4,770 ft., T.D. 4,982 ft. Straightreaming.

Wentz Oil Corp. et al's No. 1 Wirtz (Community), SE SE NW Sec. 22-28-4w.
Mississippi lime 4,766 ft.; T.D. 4,894 ft.; rigging up rotary to drill out casing.

Yingling et al's No. 1 Allen, SW SE Sec. 36-26-4w.
Digging pits.

Greer County

H. N. Payne et al's No. 1 Tressell, NW cor. Sec. 1-7-22w.
T.D. 1,795 ft.; U.R. 8-in. csg.; to deepen; cleaning out.

Hughes County

Caprock Oil Co.'s No. 1 Parks, SW SW SE Sec. 34-7-9.
S.D. 300 ft.

Freeman et al's No. 1 Kite, NW NW NE Sec. 8-6-10.
Top sand 760 ft.; show oil; S.D.

Mari Sadler's No. 1 Scott, NW cor. Sec. 29-7-9.
Dry and abd. 1,287 ft.

Sivalls et al's No. 1 Montgomery, NW SW NW Sec. 7-9-9.
T.D. 975 ft., waiting for casing.

Texas Co.'s No. 1 Keaton, NW SW Sec. 4-8-10.
Set 8-in. csg. 3,950 ft.; shot 15 qts. 3,-925-4,025 ft.; acidized; 650 ft. oil and 1,-250 ft. water in hole; pulled 8-in. csg. and plugging back to 3,848 ft.; acidized with oil load, flowed 50 bbls. oil gross in one head, then "went dead."

Kay County

Lewis Prod. Co.'s No. 1 Hollenbeck, SE NE SE Sec. 18-27-2.
Drlg. 3,140 ft.

Robinson Drlg. Co.'s No. 1 Hermes, SW SW NW Sec. 6-26-4.
Bartlesville sand 3,430-3,526 ft., water; chat 3,526-40 ft. T.D.

Leflore County

McCraw et al's No. 1 Tidwell, C NW SE Sec. 17-3-22.
S.D. 377 ft. for csg.

Lincoln County

W. N. Anthony's No. 1 Fruin-Eckman, SE SE SW Sec. 4-16-1e.
Rigging up standard tools; T.D. 5,181 ft.; bailed at 300 ft.; small show of oil and water; shut down.

Chester L. Carlock's No. 1 Young, C N½ NW NW Sec. 23-15-5.
Spudded and S.D.

Texas Co.'s No. 1 Niccum, SE SW NW Sec. 28-14-4.
Dry and abandoned 3,534 ft.

Logan County

Anderson-Prichard and Frank Buttram's No. 1 Cavalt, NW SW SE Sec. 22-16-3w.
Dry and abandoned 6,330 ft.

Sinclair Prairie and Slick-Urschel's No. 1 Koatsch, SW cor. Sec. 23-15-3w.
Second Wilcox 6,322-43 ft.; wtr.; P.B. to 6,304 ft. in Simpson; making 50 bbls. oil per day; S.I. for tanks.

Stanolind O. & G. Co., Amerada Pet. Corp. and Eason O. & R. Co.'s No. 1 Gragg, SW SW NE Sec. 20-18-4w.
T.D. 5,870 ft.; cemented off drill pipe.

Texas Co. et al's No. 1 Wood, SW SW NE Sec. 24-15-4w.
Top Wilcox 6,394 ft.; T.D. 6,432 ft., fishing for drill pipe.

Noble County

Atlantic Oil Prod. Co. et al's No. 1 Strom, 640 ft. S and W NE cor. SE¼ Sec. 8-20-1w.
First Wilcox 5,245-65 ft.; no show; second Wilcox 5,290-97 ft.; salty; plugged back and ripped pipe 3,479 ft. to 3,530 ft.; estimated 3,500,000 ft. gas and hole full of water, will plug back.

Okfuskee County

Stanolind and Amerada's No. 1-A Washington, SE NE NE Sec. 12-13-7.
Location.

Sunray Oil Co.'s No. 1 Culla, NE SW NE Sec. 13-12-8.
Wapanucka 3,492 ft., drlg. 3,660 ft.

Oklahoma County

Sinclair Prairie O. & G. Co.'s No. 1 Corbett, NE NW NE Sec. 17-12-3w.
Wilcox sand 6,645-6,706 ft.; plugged back to 6,534 ft.; flowed 72⅛ bbls. gasoline in 15 hrs.; estimated 6,000,000 to 8,000,-000 ft. gas, hole bridged.

Osage County

J. A. Freeberg et al's No. 1, NE cor. SE Sec. 1-25-6.
Mississippi lime 2,794 ft., shut down, 2,850 ft.

Pawnee County

Stanolind Oil & Gas Co.'s No. 1 Dentor, NE SW SE Sec. 32-22-3. (Old well drilling deeper).
Cored 4,300-17 ft., recovered portion slightly stained, shut down.

Pontotoc County

Ada Petroleum Co.'s No. 1 Simmons, CWL NW NW Sec. 8-3-6.
Drlg. 2,340 ft.

E. M. Blanchard's No. 1 Crabtree, NE SE NE Sec. 27-3-6.
S.D. 2,930 ft.

Philip Boyle's No. 1 McCracken, NE NW NW Sec. 31-5-4.
T.D. 2,173 ft.; plugged back to 2,167 ft.; pumped salt wtr. with show of oil.

Charles E. Carter's No. 1 Wood, NW SW SE Sec. 5-4-3.
S.D. 2,495 ft.

Continental Oil Co.'s No. 1 McCarty, C SE NW Sec. 12-1-7e.
Bromide 4,155 ft. at 4,326 ft., 5,660,000 ft. of gas, drlg. 4,328 ft.

Crabb-Craw Oil Co.'s No. 1-A Breco, SE NE SW Sec. 2-4-6.
Sand 1,106-18 ft.; pumped 10 bbls. in 24 hrs.; S.D.

Franks Bros.' No. 1 Abbott, SW NW NE Sec. 34-3-6.
Rig.

Gillette & Kroeger's No. 1 Duver, NW NW SE Sec. 36-1n-6e.
T.D. 1,325 ft.; S.D.

Gypsy Oil Co.'s No. 1 Emry, SW SW NE Sec. 15-2-6.
Drlg. 260 ft.

McBride, Inc., et al's No. 1 Copeland, SE NW Sec. 31-4-5.
Viola 1,636 ft.; T.D. 1,950 ft.; sulphur water; underreaming 6-in. csg.

Southern Oil Co.'s No. 1 Perry, SW SW NW Sec. 11-4-6.
Drlg. 1,890 ft.

Pottawatomie County

Ross Oil Co. et al's No. 1 Sparkman, SE NE Sec. 33-8n-4e.
Rig.

Seminole County

L. Cooper's No. 1 Chandler, NE SE SW Sec. 4-5-6.
S.D. 1,780 ft.

Deep Rock Oil Co.'s No. 1 Robert, SW NW NW Sec. 32-9-8.
Rigging up rotary.

Ray Dorris and J. T. Hall's No. 1 Dorris, SE SE SW Sec. 31-10-7.
Sand 520-60 ft.; H.F.W.; S.D. 608 ft.

Verser & Clay et al's No. 1 Thomas, NE SE NW Sec. 1-6-5.
S.D. at 3,030 ft.

Washita County

L. P. McWhirter's No. 1 fee, SW cor. Sec. 34-8n-19w.
T.D. 1,015 ft.; waiting for csg.

SOUTHERN OKLAHOMA

Atoka County

L. O. Garner et al's No. 1 Garner, C NE NW NE Sec. 27-1n-15 (800-ft. test).
S.D. 490 ft.

Keaton et al's No. 1-A Roland, NE cor. NW NE NE Sec. 16-3s-10e.
T.D. 850 ft. (corrected); lime at 800-47 ft.; will treat.

Malarnee et al's No. 2 D.O.K. land, C SE SE Sec. 35-2s-13.
T.D. (corrected) 3,136 ft.; cleaning out.

Mid-Continent Pet. Corp. et al's No. 1 Fulton, SW cor Sec. 19-1s-12e.
T.D. 3,005 ft.; S.D. for orders.

R. H. Pierce et al's No. 1 Aetna Life Ins. Co., NW SW NE Sec. 10-1n-13e.
(Correction) drlg. 560 ft.

A. J. Sanders' No. 1 Redden, NE SW SW Sec. 19-1n-15e.
Drlg. 220 ft.

Vierson et al's No. 1 Williams, NE SW NW Sec. 34-2s-10.
Cleaning out, T.D. 2,236 ft.

Bryan County

H. B. Smith et al's No. 1 Henry, C NW NE Sec. 16-8s-7e.
T.D. 288 ft., cleaning out.

Trio Oil Co.'s No. 1 Gilbert, SW NE SW Sec. 25-8s-7.
Drlg. 927 ft., in sand.

Carter County

Carter Oil Co.'s No. 1 Carter-Williams, SW NE SW Sec. 27-2s-3w.
Drlg. 7,925 ft.

Louis Sikes' No. 1 Byrd, SW SE SW Sec. 4-2s-2w.
S.D. at 20 ft.

Choctaw County

Rhodes et al's No. 1 Possumik Savings Bank, SW NW Sec. 1-5s-17.
Fishing tools at 695 ft.

Comanche County

F. F. Stevens' No. 1 Green, SE SE SW Sec. 2-1n-13w.
Drlg. 200 ft.

Jackson County

Associated Oil Co.'s No. 1 Harrell, NE NE SE Sec. 13-1s-21w.
S.D. 1,360 ft.

Gypsy Oil Co.'s No. 1 Boucher, NW SW SW Sec. 32-1-19w.
Sand 2,594-2,606 ft.; T.D. 2,607 ft.; 567 bbls. in 24 hrs. completed.

Gypsy Oil Co.'s No. 1 Stokes, SE NW SW Sec. 11-1-20w.
Lime 1,709-11 ft.; T.D. 1,722 ft.; S.D.

Triangle Oil Co.'s No. 1 Fox, E½ W½ NW Sec. 11-3n-20w.
S.D. 632 ft.

Jefferson County

Gypsy Oil Co.'s No. 1 James, SW SE SE Sec. 30-5s-6w.
S.D. 2,102 ft.

Johnston County

W. A. Delaney et al's No. 1 Diamond, NW NE SE Sec. 5-1s-8.
Drlg. 2,100 ft.

Equitable O. & G. Co.'s No. 1 Bellsey, NE SW Sec. 12-2s-4e.
Rig.

Franklin & Duncan's No. 1 Woolsey, NW NW SE Sec. 10-3s-6w.
Drlg. 1,000 ft.

Godfrey & Neff's No. 1 Everets, NE cor. SE SW SW Sec. 20-4s-6.
Drlg. 150 ft.

Love County

Sinclair Prairie Oil Co.'s No. 1 Stockton, SE SE SW Sec. 26-6s-2w (5,000-ft. test).
Drlg. 5,100 ft.

Marshall County

Jess Cook et al's No. 1 May, NE NW Sec. 12-8s-5.
Drlg. 75 ft.

Norman Smith's No. 1 Chestnut, NE cor. Sec. 23-8s-5e.
S.D. 275 ft.

Paul Robb's No. 1 Vittetoe, C NE SE Sec. 11-5s-4e.
Top Sylvan shale 5,495 ft.; T.D. 5,461 ft.; S.D.

Pushmataha County

C. W. Whitehead et al's No. 1 Misser, SE SW SW Sec. 35-3s-18e.
S.D. 3,420 ft.

Stephens County

Franklin & Duncan's No. 1 Woolsey, NW NW SE Sec. 10-2s-6w (old well deepening).
S.D. at 900 ft.

Prince Bros.' No. 1-A Williams, C SW SE Sec. 19-2-8w.
R.U. and S.D.

Tillman County

J. B. Connelly's No. 1 McCord, NW SE NE Sec. 15-1-17w.
T.D. 605 ft., waiting for casing.

Gypsy Oil Co.'s No. 1 Schenck, SE NW SE Sec. 31-1s-18w.
Drlg. 590 ft.

Loper et al's No. 1 Conrad, NE cor. Sec. 35-1s-19w.
Drlg. in brown shale 1,660 ft.

KANSAS WILDCATS

Week Ending October 5

(Descriptions are East unless marked otherwise)

Barton County

Lario O. & G. Co. et al's No. 1 Peter, NW cor. Sec. 24-20-11w.
Siliceous 3,373 ft.; showed oil; T.D. 3,-291 ft; swab 24 bbls. oil per hour, pulling big pipe.

Lario O. & G. Co. et al's No. 1 Smith, SW NW NW Sec. 26-18-13w.
Cellar.

C. L. Price et al's No. 1 Ehrlich, NW NW SE Sec. 10-16-13w.
Drlg. 3,190 ft.

Suppes & Witt's No. 1 Hayes, NW cor. Sec. 7-16-15w.
Drlg. 3,470 ft.

Torry & Feaster et al's No. 1 Kimpler, SE NE NE Sec. 31-18-11w.
S.D. 1,800 ft.

Torry & Feaster's No. 1 Feist, NE NE SE Sec. 29-18-11w.
U.R. 6-in. casg. to 3,180 ft.

W. E. Witt's No. 1 Murry, NW NW SW Sec. 14-17-14w.
Spudded and S.D.

Butler County

Mohawk Oil Co.'s No. 1 Overstreet, NW cor. (Lot 21), Sec. 19-26-5.
K.C. lime 2,052 ft., running 6-in. csg.

Palmer et al's No. 1 Ellis, NE cor. Sec. 7-25-4.
Drlg. 1,675 ft.

Western Kansas O. & R. Co.'s No. 1 King & Marshall, NW NW SW Sec. 11-28-6.
Siliceous lime 3,044-49 ft., 800 ft. oil in hole.

Cowley County

E. B. Shawver et al's No. 1 Hanna, NE NW SE Sec. 29-30-3.
Drlg. 1,110 ft.

T. C. Johnson's No. 1-A Ferguson, NW SW SE Sec. 17-30-3.
Rigged up.

Wakefield et al's No. 1 Auman, SE SE NE Sec. 32-33-3.
Chat 3,338 ft.; 100 ft. oil in hole; water at 3,345 ft.; P.B. to 3,338 ft.; shot 30 qts. and swabbed water with show oil.

Earl Wakefield's No. 1 Hanna, NE NE SW Sec. 2-31-4.
Drlg. 400 ft.

Winkler, Koch et al's No. 1-B Harlan, C NW NE Sec. 13-31-7.
Shut down at 1,000 ft.

Dickinson County

Dutch Oil Co.'s No. 1 Phillips, C NE NW Sec. 15-15-1e.
Drlg. 3,310 ft.

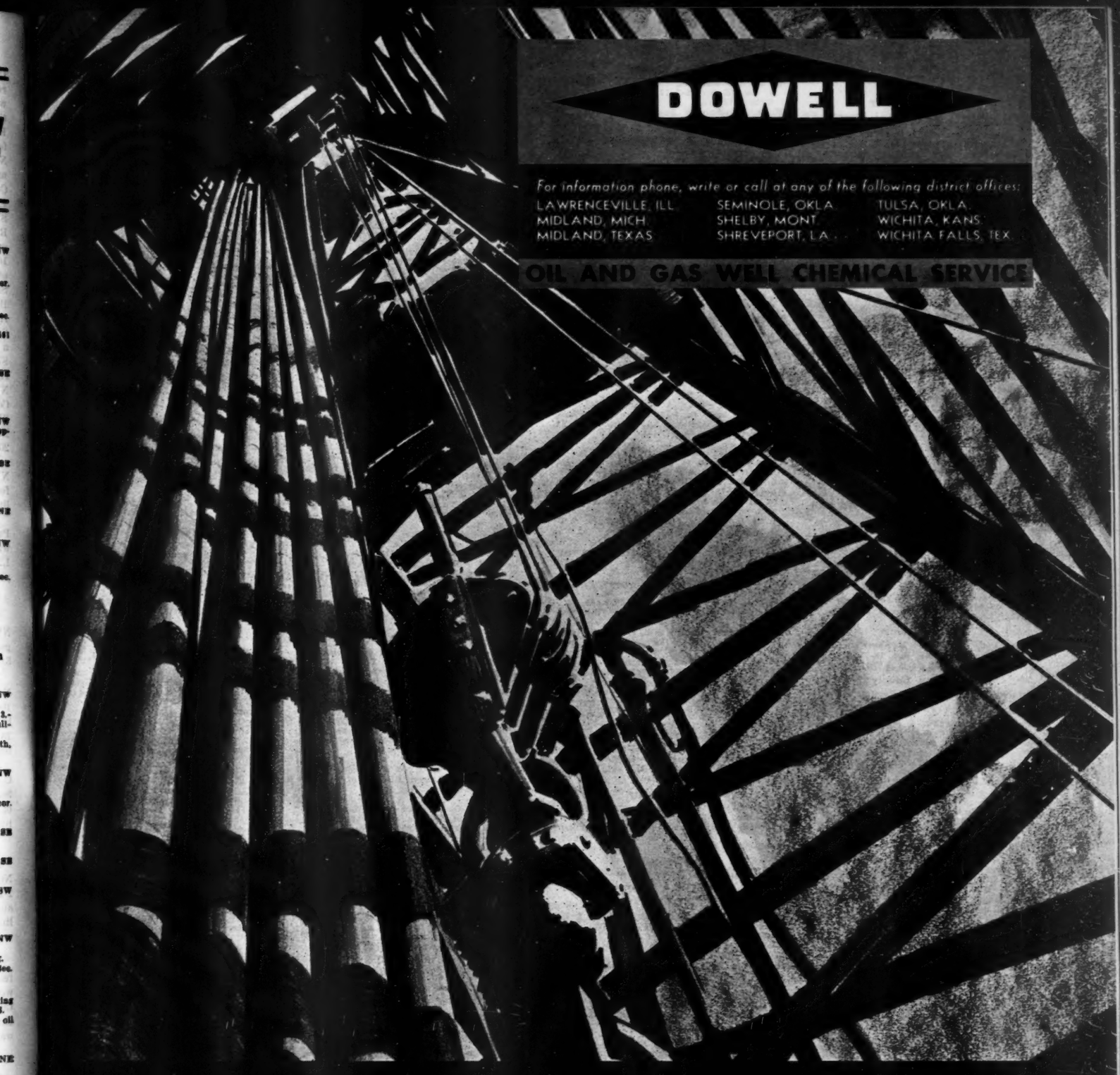
Ellis County

Helmerich & Payne et al's No. 1 Kuhn, C NE quarter Sec. 16-14-20w.
Lamotte sand 3,897 ft.; fishing at 3,-900 ft.; shut down.

Palmer and Storm King Oil Co.'s No. 1 Bowlby, NE NW NW Sec. 13-11-16w.
U.R. 8-in. csg. 3,155 ft.

P. G. Reynolds et al's No. 1 Walter, SE NE SW Sec. 2-12-18w.
Moving in material.

L. Roark et al's No. 1 Bemis, SE cor. Sec. 16-11-17w.
Cleaning out, T.D. 3,040 ft.



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Twin Drlg. Co.'s No. 1 Goetz, SW SW SE Sec. 3-14-17w.
Spudded and S.D.

Ellsworth County

Franco Central et al's No. 1 Prevert, SW cor. Sec. 3-17-10w.
Siliceous lime 3,320 ft.; T.D. 3,355 ft.; acidized; pumped 34 bbls. oil in 24 hrs.; reacidized 2,000 gallons; pumped 47 bbls. oil in 19 hrs.

Gypsy Oil Co. and Texas Co.'s No. 1 Lapham, SW cor. Sec. 27-16-7w.
Rigging up rotary.

Keith et al's No. 1 Schepman, SW SW NW Sec. 22-17-10w.
Ran 6-in. csg. to 3,313 ft.

Lario O. & G. Co.'s No. 1 State, SW SW SW Sec. 29-15s-8w.
T.D. 3,937 ft.; P.B. 2,525 ft.; S.D.

Tom Palmer's No. 1 Splitter, NW NE SE Sec. 17-17-8w.
Rigging up.

Slick, Pryor & Lockhart's No. 1 Sturn, NW NW SW Sec. 26-17-10w.
Rigging up.

Graham County

Cusco Oil Co.'s No. 1 Kaufman, C NE NE Sec. 18-6-24w.
Rigging up.

Helmerich & Payne et al's No. 1 Stites, C SW SW Sec. 8-10-22w.
Top Siliceous 4,196 ft.; T.D. 4,220 ft.; Dry; plugged back to 3,870 ft., fshg.

Vickers Pet. Co. & Phillips Pet. Co.'s No. 1 Hutton, 430 ft. W and 330 ft. S of NE SE Sec. 29-8-22w.
Drlg. 775 ft.

Harvey County

Goering Bros.' No. 1 Brainard, NE SW Sec. 3-23-2w.
Hole full of water, 2,592-2,609 ft., abandoned.

Kingman County

Derby et al's No. 1 Bartholomew, SW NW NW Sec. 8-27-4w.
Siliceous 4,137 ft.; T.D. 4,155 ft.; water; P.B. 4,006 ft. and drilled to 4,017 ft.

D. R. Lauck's No. 1 Skilling, SE NE SW Sec. 33-27-8w.
Drlg. 1,490 ft.

Logan County

Alma Pet. Co. and McNeely's No. 1 Watchorn, C SW NE Sec. 13-15-33w.
K.C. lime 3,950 ft.; fsg. 4,090 ft.

McPherson County

Anderson & Kerr's No. 1 Wernet, NW cor. Sec. 24-20-4w.
Mississippi lime 3,354 ft., drlg. 3,512 ft.

Carey & Miller's No. 1 Husband, SE SE NW Sec. 6-19-2w.
Chat 3,121 ft., 5 bbls. of water at 3,125 ft. T.D.

L. H. Wentz' No. 1 Holdeman, NW SE Sec. 16-18-1w.
Siliceous lime 3,445-79 ft., dry and abd.

Pratt County

Skelly Oil Co. et al's No. 1 Comm. Gilchrist, C SE¼ Sec. 7-28-11w.
Fishing 3,160 ft.

Reno County

Allison & Fitzwilliams' No. 1 Dukelow, NE NE NE Sec. 11-22-6w.
Drlg. 3,755 ft.

Duwe & Dustin's No. 1 Ghormley, C NE NW Sec. 17-24-7w.
Rigged up.

Foraker et al's No. 1 Hiett, SE SW NE Sec. 34-24-4w.
U.R. 12-in. csg. to 1,485 ft.

McPherson Drlg. Co. et al's No. 1 Miller, NE NW Sec. 34-24-5w.
Drlg. 3,452 ft.

Shell Pet. Corp.'s No. 1 Reese, center W½ W½ SW¼ Sec. 11-26-9w.
Viola 4,128-56 ft. T.D., tested 20 bbls. oil, 3 bbls. water in 20 minutes.

Stanolind & Amerada's No. 1 J. J. Hilger, A, NE NE SW Sec. 21-26-4w.
Set whipstock 3,832 ft.

Winkler & Koch et al's No. 1 Brownlee, SW cor. Sec. 31-24-10w.
Funda.

Rice County

Aylward et al's No. 1 Haas, NE NW NE Sec. 4-19-10w.
Drlg. 2,695 ft.

Aylward et al's No. 1 Rickard, SW SW NW Sec. 22-18-9w.
Siliceous 3,324 ft.; hole full water 3,376-3,400 ft.; P.B. and shot 3,285-3,305 ft.; pumped 201 bbls. oil and 37 bbls. water; comp.

Continental Oil Co.'s No. 1 Ferguson, SW NW NE Sec. 8-18-7w
Siliceous lime 3,295-39 ft.; swabbed 100 bbls. oil, 12 bbls. of water in 24 hrs. Acidized, no test.

Day's No. 1 Mason, NW NE NE Sec. 23-21-7w.
S.D. 2,480 ft.

Detrick et al's No. 1 Monroe C NE NE Sec. 9-20-7w.
Spudding.

Empire O. & R. Co.'s No. 1 Schroeder, SW SE SE Sec. 7-18-9w.
Building rig.

James Davis' No. 1 Bernstorf, SE cor. Sec. 19-19-10w.
Drlg. 2,365 ft.

Detrick et al's No. 1 Conner, C NE NE Sec. 23-19-7w.
S.D. 2,275 ft.

L. E. Douglas and Hutchinson O. & G. Co.'s No. 1 Hammell, NE NE NE Sec. 16-19-10w.
Drlg. 3,342 ft.

Rooks County

El Dorado Refining Co.'s No. 1 Marshall, C SE SE Sec. 8-7-17w.
Drlg. 1,785 ft.

F. A. Gillespie & Sons' No. 1 Low, NE NE NW Sec. 12-6-18w.
Drlg. 1,505 ft.

Murfin et al's No. 1 Wasthusin, NE NE SE Sec. 19-9-16w.
Fshg. at 1,300 ft.

Lario O. & G. Co. et al's No. 1 Fisher, NE cor. Sec. 22-10-18w.
Drlg. 3,117 ft.

Trees Oil Co. and Findeiss' No. 1 Johnson, SW SW SE Sec. 26-10-19w.
Oswald 3,285 ft.; oil 3,340-47 ft.; T.D. 3,349 ft.; swabbed 100 bbls. oil and 3 bbls. water 4½ hrs. and swabbed down to 45 ft. off bottom; acidized with 1,000 gallons and pumped 256 bbls. oil and 35 bbls. water; comp.

Rush County

E. L. Byers et al's No. 1 Ewing, NW SW SW Sec. 35-19-15w.
Bldg. rig.

Darby Pet. Co.'s No. 1 Jacobs, SW SW NW Sec. 3-16-19w.
Location.

Gypsy Oil Co.'s No. 1 Kraisinger, SE NE SE Sec. 23-18-17w.
Granite 3,719-20 ft.; T.D.; dry and abd.

Ramsey Pet. Co. et al's No. 1 Darkes, C W½ W½ NW Sec. 5-17-20w.
K.C. lime 3,568 ft.; T.D. 3,711 ft.; plugged back to 3,533 ft.; drlg. by casing; set whipstock 3,430 ft.; drlg. at 3,685 ft. by casing.

Russell County

J. Brouk and R. D. Bailey's No. 1 Kleusner, NW NW SE Sec. 34-15-12w.
Siliceous 3,275-78 ft.; 3,100 ft. oil in hole; set 5-in. pipe; drilled plug 3,850 ft. of oil in hole in 30 min.; swbd. 118 bbls. oil in 3½ hrs.

Central Pet. Co.'s No. 1 Boxberger, NW cor. Sec. 36-15-15w.
R.U.

Coralena Oil Co.'s No. 1 Berrick, NE NW NE Sec. 6-15-13w.
Drlg. 2,440 ft.

Hartman & Blair's No. 1 Clausseen, SE NE SW Sec. 34-12-14w.
Oswald 2,751 ft.; pay 2,796-2,800 ft.; T.D.; acidized, pumped 15 bbls. fluid per hour.

T. C. Johnson et al's No. 1 Mermis, NE NE SW Sec. 29-13-15w.
Drlg. 350 ft.

Murfin et al's No. 1 Gorham estate, NE NE SE Sec. 29-14-15w.
Moving in material.

Nassau Oil Corp.'s No. 1 Karst, NW SW NE Sec. 27-15-14w.
Siliceous 3,315-18 ft. T.D.; 1,600 5 hrs. No test.

Roth & Faurot's No. 1 Shaffer, C NW NE Sec. 31-13-12w.
Oswald at 2,965-81 ft.; 800 ft. of oil in hole; bailer did not lower fluid level; deepened to 3,002 ft., T.D.; salt water; P.B. to 3,000 ft.; acidized.

Sedgwick County

Dickey Oil Co. et al's No. 1 Chase, SE cor. Sec. 11-27-2.
Siliceous 3,262-78 ft., pumped 30 bbls. oil, 7 bbls. water, 7 hrs., will cement 5-in. csg. 3,262 ft.

Stafford County

Atlantic Oil Producing Co., Phillips Petroleum Co. et al's No. 1 Brown C NW NE Sec. 16-23-13w.
Set pipe at 740 ft.

Atlantic Oil Prod. Co. and Phillips Pet. Co.'s No. 1 Cornwall, C NE SW Sec. 4-25-13w.
Viola (corrected) 4,044 ft.; show oil 4,060 ft.; T.D. 4,078 ft.

Rose-Spring Drlg. Co.'s No. 1 Toland, NW NW SW Sec. 2-25-14w.
Dry and abd. 4,301 ft.

Sedgwick Oil Co.'s No. 1 Ellinwood Hunting Club, SE SW SW Sec. 33-21-11w.
Siliceous 3,657-79 ft.; T.D.; dry and abd.

Sumner County

D. J. Wilson et al's No. 1 Clark, 1,320 ft. from W and 25 ft. from S line of NW Sec. 15-35-1w.
Drlg. 2,145 ft.

Winkler & Koch et al's No. 1 Belsley, SW SW NW Sec. 2-32-2w.
Drlg. 4,190 ft.

Trego County

Central Commercial's No. 1 Wagg, NW NW SE Sec. 17-12-21w.
Skidded rig 40 ft. east, rigging up.

Hanna & Lauck and Olson Drlg. Co.'s No. 1 Lang, SE SE NW Sec. 1-14-21w.
Drlg. 3,836 ft.

Vickers et al's No. 1 Secor, NW NW NW Sec. 25-15-24w.
U.R. 6-inch. csg. 3,920 ft.

Woodson County

Coulter, Davidson et al's No. 1 Paske, NW SE Sec. 25-25-13.
Cleaning out 1,077 ft.

Saco Oil Co.'s No. 1- Hassenpflug, SW NW NE Sec. 34-25-14.
Pay 1,370-1,509 ft.; shot with 100 qts.; est. at 150 bbls. per day.

GULF COAST WILDCATS

Week Ending October 5

Raccoon Bend—Austin County

Humble O. & R. Co.'s No. 3 Wilson, 150 ft. NE of SW line, 1,000 ft. SE No. 6-X, William Harvey Sur.
Drlg. shale 2,647 ft.

Humble O. & R. Co.'s No. 5-X Grauruder, 699 ft. along NWL at R/A to NWL 252 ft. from No. 2, Wm. C. White Sur.
T.D. 4,135 ft.; I.P. 35 bbls. per hour on ⅛-in. choke, T.P. 220 lbs.

Humble O. & R. Co.'s No. 3 H. F. Granes, 652 ft. NE of No. 1, 150 ft. SE of NW¼ of 63.8-ac. tract, Smeathers Sur. Location.

Humble O. & R. Co.'s No. 7-X McCasland, 190 ft. NW line, 168 ft. SE line of Smeathers & White Sur. Location.

Hastings—Brazoria County

Humble O. & R. Co.'s No. 2 Cannon, 330 ft. out of NE cor. of 60-ac. tract, H.T. &B. Sur. No. 36.
Derrick.

Humble O. & R. Co.'s No. 1 G. C. Cannon, 330 ft. N, 330 ft. W from SE cor. of 60-ac. lease, H.T.&B. Sur., Sec. 36.
T.D. 6,100 ft., 7-in. csg. 5,719 ft.

Humble O. & R. Co.'s No. 1 J. F. Bridges, center of N 10 acres of 20-ac. lease, A.C.H.&B. Sur. No. 2.
Location.

Humble O. & R. Co.'s No. 2 J. F. Bridges, center of S 10 acres of 20-ac. lease, A.C.H.&B. Sur. No. 2.
Location.

Stanolind O. & G. Co.'s No. 1 Whiton, 330 ft. S, 500 ft. W of the NE cor. of G. W. Whiton 10-ac. tract, A.C.H.&B. Survey No. 2.
16-in. csg. 106 ft.; W.O.C.

Stanolind Oil & Gas Co.'s No. 3 Drake, 330 ft. N, 330 ft. E of SW cor. of 120-ac. tract, H.T.&B. Sur. No. 36.
Drlg. sand 4,876 ft.

Stanolind O. & G. Co.'s No. 2 Ford, 330 ft. N, 3,092 ft. W of SE cor. of 199.3-ac. tract, A.C.H.&B. Sur. No. 1.
Drlg. shale 5,420 ft.

Stanolind O. & G. Co.'s No. 2 Kidd, A.C. H.&B. Sur. No. 2, 330 ft. E of most easterly W line, 416 ft. S of N line of 58.4-ac. tract.
Coring shale 5,818 ft.

Stanolind O. & G. Co.'s No. 2 Miller, A.C.H.&B. Sur. No. 2, 831 ft. S, 258 ft. W of NE cor. of 39.39-ac. tract.
10¾-in. csg. 2,226 ft.; T.D. 2,233 ft.

Stanolind O. & G. Co.'s No. 5 Sneed, A.C. H.&B. Sur. No. 2, 330 ft. N, 330 ft. E of NE cor. of Lot 12, D. M. Jay Subd., 2.25-ac. tract.
T.D. 6,090 ft., 7-in. csg. 5,995 ft.; I.P. 500 bbls. 24 hours thru ¼-in. choke, T.P. 850 lbs.; C.P. 825 lbs.

Stanolind O. & G. Co.'s No. 3 Williams, A.C.H.&B. Sur. No. 1, 330 ft. W, 119.4 ft. S inside of NW cor. of 88.5-ac. tract.
Drlg. lime 4,300 ft.

Stanolind O. & G. Co.'s No. 2 Guido, 330 ft. N, 1,650 ft. W from SE cor. of 40-ac. lease, H.T.&B. Sur. No. 36.
T.D. 6,080 ft., 7-in. csg. 5,896 ft.; W.O.C.

Stanolind O. & G. Co.'s No. 2 Drake, 330 ft. N, 1,650 ft. W from SE cor. of 120-ac. lease, H.T.&B. Sur. No. 36.
Derrick.

Stanolind O. & G. Co.'s No. 2 Pennock, 330 ft. N, 1,650 ft. W from SE cor. of 40-ac lease, H.T.&B. Sur. No. 36.
Derrick.

Stanolind O. & G. Co.'s No. 4 Sneed, 330 ft. S, 330 ft. W of NE cor. of Lot 12, D. M. Jay Subd., on Sneed 225-ac. tract, A.C. H.&B. Sur. No. 2.
T.D. 7,970 ft.; set whipstock at 4,397 ft.; failed to drill out; set second whipstock at 4,448 ft. and milled out at 4,463 ft.
Coring sand 6,216 ft.

Manvel—Brazoria County

Alpha Pet. Co.'s No. 1 Hart, 185 ft. NSL, 330 ft. EWL, Lot 9, H.T.&B. Sur.
Location.

Gulf Prod. Co.'s No. 5 Colby, 330 ft. from NW line of lease, 660 ft. SW of No. 3, T. Spraggins Sur.
Moving in.

Jay Simmons' No. 1 Wilson, center of Lot 25, H.T.&B. Sur. No. 23.
Location.

Sinclair Prairie Oil Co.'s No. 1 Michaelson, 330 ft. E of W line and midway of N and S lines, Lot 19, H.T.&B. Sur. No. 24.
Location.

J. W. Sorrells' No. 1 Swift, Blk. 21, Abst. 318, H.N. Little Sur.
Derrick.

Texas Co.'s No. 16-B Belcher, 1,560 ft. N, 45 deg. W and 360 ft. N, 42 deg. E of SW cor. of lease, H. N. Little Sur.
Rig up.

Texas Co.'s No. 1 Richard, 2,475 ft. N, 330 ft. W of SE cor. of Lot 15, H.&T.B. Sur., Sec. 23.
Drlg. sand and boulders 1,454 ft.

Texas Co.'s No. 15-B Belcher, N 42 degrees E, 1,371 ft. and N 48 degrees W, 330 ft. from SW cor. H. N. Little Sur.
Drlg. shale and lime 5,000 ft.

Texas Co.'s No. 14 Houston Oil Field Material Co., 203 ft. E, 360 ft. S of NW cor. Lot 23, A.C.H.&B. Sur. Sec. 91.
T.D. 4,097 ft., 7-in. csg. 4,074 ft.

Texas Co.'s No. 1 A. Cooper, 247.5 ft. N, 330 ft. E of SW cor. of Lot 20, H.T.&B. Sur., Sec. 24.
Drlg. sand and shale 4,180 ft.

Texas Co.'s No. 2 Dawson, 247 ft. S, 241 ft. W of NE cor. of Lot 53, H.T.&B. Sur. No. 23.
Location.

Windsor Oil Co.'s No. 3 Colby, 325 ft. SE of NW line, 660 ft. SW of No. 2, Thos. Sproggins Sur., Blk. 20.
T.D. 5,161 ft.; I.P. 80 bbls. in 15 hrs., ⅛-in. choke, T.P. 1,600 lbs.; C.P. 1,775 lbs.

Old Ocean—Brazoria County

Harrison & Abercrombie's No. 2 Bernard River, 1,000 ft. N, 54 deg. W, 400 ft. S, 36 deg. W of No. 1, Charles Breen Sur.
T.D. 4,910 ft.; cemented back to 2,700 ft.

Pledger—Brazoria County

Humble O. & R. Co.'s No. 1 Josie Hirsch Block, Moore Sur.
T.D. 6,750 ft.; 7-in. csg. 6,508 ft.

West Columbia—Brazoria County

Varner Oil Co.'s No. 1 Hogg, 800 ft. from most easterly W line and 3,600 ft. from N line of 400-ac. tract, M. Varner Sur.
Spudded.

Port Lavaca—Calhoun County

Crown Central Oil Co.'s No. 1 Wilson, 400 ft. NW line, in center of tract, A. Esparza Sur.
T.D. 6,315 ft.; plugged back 3,959 ft.; prepare to sidetrack.

Halliburton Oil Co.'s No. 4 Burton, M. Sanches Sur.
T.D. 7,498 ft.; P.B. to 4,020 ft.; set whipstock 4,158 ft.

Texas Co.'s No. 2 Shofner, 466 ft. S of N line, 466 ft. E of W line, 50-ac. tract, Maximo Sanches League.
T.D. 6,251 ft.; flowed gas and 3 bbls. of distillate, well now shut in.

Anahuac—Chambers County

Gulf Prod. Co.'s No. 1 Knowles, 2,154 ft. SN line, 467 ft. EW line, Sec. 48, H.&T.C. Sur.
Drlg. shale 7,780 ft.

Humble O. & R. Co.'s No. 1-B Broussard, 466 ft. S of N line, 466 ft. E of W line of Sec. 59, H.&T.C. Sur.
16-in. csg. 98 ft.

Humble O. & R. Co.'s No. 5 Broussard, 2,212 ft. E of W line, 466 ft. S of N line of Sec. 63, H.&T.C. Sur.
Rig up.

Humble O. & R. Co.'s No. 5 Clark, 1,945 ft. S of N line, 466 ft. E of W line, Sec. 57, H.&T.C. Sur.
16-in. csg. 113 ft.

Humble O. & R. Co.'s No. 6 Clark, 1,939 ft. N of S line, 466 ft. E of W line of Sec. 57, H.&T.C. Sur.
Location.

Humble O. & R. Co.'s No. 7 Middleton, 466 ft. E of W line and N of S line of 100-ac. tract in NE cor. of Sec. 64, H.&T.C. Sur.
Location.

Humble O. & R. Co.'s No. 6 Engel's, 1,000 ft. E of No. 1 466 ft. N of S line, 1,474 ft. E of W line, Sec. 50, H.&T.C. Sur.
Location.

Humble O. & R. Co.'s No. 8 Middleton, 2,212 ft. E of W line, 466 ft. N of S line of Sec. 58, H.&T.C. Sur.
Location.

Humble O. & R. Co.'s No. 4 Clark, 2,313 ft. S of N line, 466 ft. W of E line of Sec. 57, H.&T.C. Sur.
T.D. 7,085 ft.; shale and sand; 7-in. csg. at 7,025 ft.; I.P. 29 bbls. thru ¼-in. choke; T.P. 1,100 lbs.; C.P. 1,200 lbs.

Humble O. & R. Co.'s No. 6 Middleton, 1,398 ft. S of N line, 1,397 ft. W of E line of H.&T.C. Sur., Sec. 64.
T.D. 7,144 ft.; cmtd. 7-in. csg. at 7,144 ft.; W.O.C.; P.B. to 7,128 ft.; I.P. 21 bbls. per hour thru ¼-in. choke.

Humble Oil & Refg. Co.'s No. 5 Meddleton, 464 ft. W of E line, 1,339 ft. S of N line of Sec. 58, H.&T.C. Sur.
T.D. 7,085 ft.; cmtd. 7-in. csg. at 7,023 ft.; W.O.C.
I.P. 26 bbls. per hour thru ¼-in. choke; T.P. 1,025 lbs.; C.P. 2,600 lbs.

Humble O. & R. Co.'s No. 3 Broussard, 2,332 ft. E of W line, 2,332 ft. N of S line of Sec. 63, H.&T.C. Sur.
Location.

Sun Oil Co.'s No. 3 White, 507 ft. S of N line, 1,933 ft. W of No. 2 James McGahey Sur.
Bldg. derrick.

Johnson & Anderson's No. 1 J. T. White, 466 ft. from S and E lines of N 400 acres of James McGahey Sur.
Rig.

Mason & McCarthy's No. 2 White, 932 ft W of No. 1, 466 ft. N of S line of James McGahey Sur.
Drlg. shale 6,645 ft.

Sun Oil Co.'s No. 2 White, 467 ft. SN line, 932 ft. W of No. 1, James McGahey Sur
T.D. 7,082 ft., 7-in. csg. 7,040 ft.; W.O.C.

Woodley Pet. Co.'s No. 1 Blanke, 330 ft. NS line, 990 ft. EW line, Sec. 41, H.& T.C. Sur.
Drlg. shale 6,740 ft.

Big Creek—Fort Bend

Gulf Prod. Co.'s No. 65 Davis, 2,260 ft. NE along SE line of Davis 2,228-ac. tract or NW cor. Texas Co.'s 300-ac. tract and 1,775 ft. NW at R/A, 500 ft. SE of No. 64 M. Young Sur.
Drlg. shale 1,217 ft.

Blue Ridge—Fort Bend County

San Jacinto Oil Co.'s No. 6 Blakely, 260 ft. due E of No. 5, 325 ft. W from center of road, Lot 8, Blk. E, E. Drew Sur.
Moving in.

Trans State Oil Co.'s No. 1-B Blakely, 100 ft. E of W line, 175 ft. N of S line Lot 6, Blk. G, E. Drew Sur.
T.D. 460; W.O.C.

Boling—Fort Bend County

Mack Hawk Oil Co.'s No. 2 E. C. Farmer, 367 ft. from NE line, 548 ft. from NW line of 50-ac. tract, J. Scott Sur.
Set surface csg. 951 ft.

Texas Co.'s No. 13 Anne Taylor, 150 ft. N at R/A of 10-ac. tract, S. F. Austin League.
T.D. 3,573 ft.; P.B. to 2,400 ft.; set 7-in. csg. at 3,282 ft.; I.P. 150 bbls. per day

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Conoco Jobbers and Dealers are using this interesting demonstration

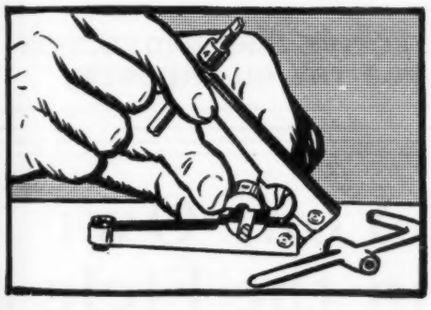
You, too, can profit by using it!

Any oil becomes a better lubricant after it's Germ Processed! Any oil that is alloyed by adding to it concentrated Germ Essence shows a remarkable gain in oiliness and film strength. It slides easier. It withstands greater loads.

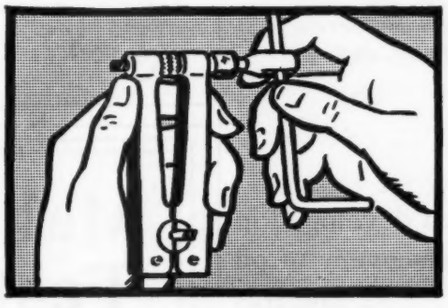
We'll back up that statement with proof that *you* can see, feel and hear if you will permit us. We will show you with the instrument illustrated here that any oil you want to try would gain in oiliness and film strength if it were Germ Processed.

We know that after you demonstrate this *yourself,* as thousands of jobbers and dealers have, you'll see the possibilities of increased oil sales and profits that Conoco Germ Processed Motor Oil offers you.

Write us to come and make this demonstration. No obligation, of course. You will profit by seeing it, for you'll learn what only Germ Processed Oil has to offer your customers and why they will like it.



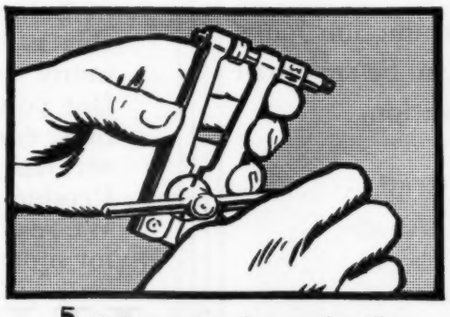
1 Assembling the instrument. Split bearings and shaft, lubricated with competitive oil, are clamped between jaws of instrument.



2 Shaft is turned to distribute oil evenly. Set-screw is tightened until bearing and shaft are under severe load.

3 Crank is used to turn shaft. Oil film ruptures and bearing seizes. Shaft extremely hard to turn. You can even *hear* the metal-to-metal contact!

4 One drop of patented Germ Essence is added to oil in bearing. Same severe load is applied. Original oil has now been Germ Processed.



5 Shaft can now be turned easily. Smooth, quiet movement—no seizing—no sound. *Proof* that Germ Processing increases oiliness and film strength of oil!

Car manufacturers using copper-lead, cadmium and high-lead bearings have tested Conoco Germ Processed Oil. They will tell you that this new alloyed oil gives the finest protection to these new alloyed bearings in their cars!

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HOUSTON, TEXAS

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Orchard—Fort Bend County

Gulf Prod. Co.'s No. 1-A J. M. Moore, 1,430 ft. W, 110 ft. N of SE cor. of sur. Durman Imigration A-177.
Drlg. rock 404 ft.

Gulf Prod. Co.'s No. 44 Moore, 500 ft. NW of No. 42, Leo Burknapp Sur.
Coring salt 3,681 ft.

Gulf Prod. Co.'s No. 43 Moore, 350 ft. E along S line of SW cor. of E.M.&G. Co. Sur. and 740 ft. N at R/A to said line of lease, 350 ft. E of No. 3 Moore.
T.D. 6,665 ft.; plugged back and coring shale 5,705 ft.

Thompson—Fort Bend County

Gulf Prod. Co.—Humble Oil & Ref. Co.'s No. 26-A Booth, 921 ft. W of No. 23, 884 ft. N of S line of lease, S. Kennedy Sur.
Derrick.

Gulf Prod. Co.'s No. 2-A F. J. Booth, 485 ft. from N line, 698 ft. W of No. 24, S. Kennedy League.
Cored from 7,808-28 ft.; slight show of oil 7,829-34 ft.; coring sandy shale 7,-854 ft.

High Island—Galveston County

Stanolind O. & G. Co.'s No. 50 Cade, 350 ft. WE line, 950 ft. NS line of 460-ac. tract, N. Fitzsimmons Sur.
Rig up.

Stanolind O. & G. Co.'s No. 51 Cade, 690 ft. SN line, 620 ft. WE line of 460-ac. tract, Fitzsimmons Sur.
Rig up.

Stanolind O. & G. Co.'s No. 49 Cade, 372 ft. from NW line, 150 ft. from NE line of N. Fitzsimmons Sur.
Drlg. sand and lime 4,423 ft.

Stanolind O. & G. Co.'s No. 3-A Taylor, 62.5 ft. from W line of lease, 164 ft. S of No. 1-A, M. Dunman Sur.
Drlg. sandy shale 4,956 ft.

Stanolind O. & G. Co.'s No. 4-A Taylor, 62.5 ft. from W line of 15.7-ac. tract, 120 ft. N of No. 1-A M. Dunman Sur.
Drlg. sandy lime 4,367 tf.

Stanolind O. & G. Co.'s No. 48 Cade, 900 ft. SE and 150 ft. NE of SW corner Block 4, Fitzsimmons Survey.
Drlg. shale 5,300 ft.

Yount Lee Oil Co.'s No. 3 Maco-Stewart, 202 ft. S of No. 2 Stewart and 122 ft. W of E line of 7.73 acre tract, D. Dunman Sur.
T.D. 5,214 ft.; 7-in. csg. 5,075 ft.; I.P. 241 bbls. per day thru ¼-in. choke.

Dickinson—Galveston County

Humble Oil & Ref. Co.'s No. 2 Townes, 933 ft. E of No. 1, 1,133 ft. W of E line, 3,604 ft. N along E line of SE cor. of B.B.B.&C. Sur.
16-in. csg. 311 ft.; drlg. shale 980 ft.

Humble O. & R. Co.'s No. 1-B Bayou Dev. Co., 500 ft. S of lake in NW cor. of lease, 600 ft. E of W line, John Sellers Sur.
Drlg. shale and boulders 4,275 ft.

Humble O. & R. Co.'s No. 1 San Leon Farm, 1,300 ft. N of N bank of Dickinson Bayou, 100 ft. E of EL of J. S. Jones Sur. in 300-ac. tract, A. Edwards Sur. Location.

Humble Oil & Refg. Co.'s No. 6-A Maco Stewart, 6,087 ft. S of NE corner, 1,390 ft. W of E line and 1,390 ft. E of W line and 466 ft. N of S line of Stewart 863-acre lease, J. Sellers Sur.
Drlg. shale 7,694 ft.

Humble O. & R. Co.'s No. 5-A Stewart, 466 ft. W of E line of Stewart "A" Lease, 6,500 ft. due S of No. 2-A Stewart, John Sellers Sur.
Rig.

Humble O. & R. Co.'s No. 1 E. E. Anderson, 375 ft. N of S line, and midway between E and W lines of Lot No. 4, John Sellers Sur.
Drlg. shale 7,988 tf.

Pure Oil Co.'s No. 3 J. W. Shelor, 779 ft. N, 182 ft. W of N. I. Shelar, B.B.B. &C. Sur.
T.D. 8,481 ft.; P.B. 4,815-4,650 ft.; sidetracking at 5,240 ft.

Stanolind O. & G. Co.'s No. 3 State, 633 ft. SE of No. 1, 213 ft. N of S bank of Dickinson Bayou Sur., Tract No. 3.
13⅜-in. csg. 1,800 ft.; W.O.C.

Stanolind O. & G. Co.'s No. 2 State, 1,369 ft. E of No. 1 State.
Drlg. lime and shale 5,835 ft.

Turman Oil Co.'s No. 2 Piazza, 231 ft. W of E line, 730 ft. S of N line, 945 ft. E of No. 1, J. S. Sherman Sur.
Location.

Arriola—Hardin County

Houston Oil Co.'s No. 6-X fee, 2,620 ft. from E line, 400 ft. SW of No. 5, E. Arriola Sur.
(O.W.D.D.) Drlg. shale 2,200 ft.

Houston Oil Co.'s No. 7-X fee, 660 ft. 20 deg. 30 ft. SE from No. 1-X.
S.D. 4,380 ft.

Republic Oil C.'s No. 10 fee (old well). Drlg. shale and sand 3,700 ft.

Batson—Hardin County

D. & L. Prod. Co.'s No. 1 Hooks, 100 ft. S of N line, 300 ft. E of W line 26.75-ac. tract, W. Donoho Sur.
10¾-in. csg. 1,098 ft.; T.D. 1,100 ft.

John Deering and Batson Oil Co.'s No. 4 Mary Hooks, located halfway between No. 1 and No. 2, W. Donoho Sur.
T.D. 5,103 ft.; 7-in. csg. 5,100 ft.

Shell Pet. Corp.'s No. 2 Jackson, 190 ft. W EL, 395 ft. N of SL of lease, W. Donoho Sur.
Location.

Texas Co.'s No. 1 Christian, 100 ft. from W line, 350 ft. from N line of 26.45-ac. tract, W. Donoho Sur.
Drlg. shale and lime 4,030 ft.

Saratoga—Hardin County

Fauntaine and Poggi's No. 1 Enloe and Teel, 600 ft. WE line, 100 ft. SN line of league, T. Gainer Sur.
Rig up.

Hines' No. 2 Caswell.
Rig up.

Pierce Junction—Harris County

J. S. Abercrombie et al's No. 6 Ritter, 125 ft. N of highway, 190 ft. W of No. 5, James Hamilton Sur., Sec. 51.
T.D. 3,661 ft.; 9⅝-in. csg. at 3,610 ft.

Gulf Prod. Co.'s No. 11 H. C. Cain, 390 ft. from W line, thence 439 ft. at R/A to N line of 130-ac. tract, Jas. Hamilton Sur. No. 98.
Drlg. sandy shale 5,213 ft.

W. H. Holland et al's No. 1, I.&G.N.R.R., 830 ft. from S line of Jas. Hamilton Sur. 7-in. csg. 3,970 ft.; tested S.W.; T.D. 4,035 ft.; abd.

Navarro Oil Co.'s No. 3-A Cain, 75 ft. S line, 50 ft. W line, Jas. Hamilton Sur.
T.D. 6,606 ft; completed, no gauge.

Navarro Oil Co.'s No. 3-B Cain, Jas. Hamilton Sur.
T.D. 7,078 ft.; shale; heaved to 7,018 ft.; P.B. to 6,130 ft.; milling in sidetracked hole at 5,506 ft.

Wright et al's No. 1 Higgins, 25 ft. from S and W lines of Lot 2 of W. H. Jones 25-ac. Subvd., B.B.B.&C. R.R. A-179.
T.D. 4,066 ft.; 7-in. csg. at 4,030 ft.

Humble—Harris County

Sun Oil Co.'s No. 90 River Lease, 650 ft. W of E line, 850 ft. N of S line of Robert Dunnan Sur.
Drlg. cap rock 1,458 ft.

Sun Oil Co.'s No. 91 River Lease, 671 ft. N of S line, 200 ft. W of No. 56, 400 ft. W of E line of Robert Dunman Sur.
T.D. 1,300 ft.; 12-in. csg. at 1,286 ft.; Abandoned.

Sun Oil Co.'s No. 30 Bender, 2,392 ft. N, 3,080 ft. W of most northerly SE cor. of lease; H. Adams Sur.
Drlg. shale 5,268 ft.

Texas Co.'s No. 38 Koehler, 1,750 ft. N, 500 ft. E of SW cor. of the tract, J. B. Stevenson Sur.
Drlg. shale and lime 3,103 ft.

Mykawa—Harris County

Danciger O. & R. Co.'s No. 4 Minnetex, 300 ft. WE line, 250 ft. SN line of Lot 192, Wm. Lovett Sur.
Drlg. 2,400 ft.

West Prod. Co.'s No. 5 Platt, 806 ft. W of E line, 508 ft. N of S line of lease. W.C. Walters Sur.
Rig up.

West Prod. Co.'s No. 4 Irwin, 200 ft. EW line, 230 ft. SN line of lease, W. B. Walker Sur.
10¾-in. csg. at 1,543 ft.; drlg. shale and lime, 2,792 ft.

West Production Co.'s No. 4 Platt, 306 ft. W of E line, 255 ft. N of S line of lease, W. B. Walters Sur.
T.D. 4,402 ft.; 7⅝-in. csg. at 4,204 ft.; I.P. 283 bbls. per day, ¼-in. choke.

South Houston—Harris County

Stanolind O. & G. Co.'s District 19, No. 1, center of Lot 8, Blk. 77.
Location.

Stanolind O. & G. Co.'s District 21, center Lot 1, Blk. 62.
Location.

Stanolind O. & G. Co.'s District 22, No. 1, center of Lot 8, Blk. 71.
Location.

Stanolind O. & G. Co.'s District 27, No. 1, center Lot 1, Blk. 102.
Location.

Stanolind O. & G. Co.'s No. 1 Meadowbrook, 417 ft. at right angles from NE line, 417 ft. from center line of Berry Gully, 414 ft. NW along NE line and 417 ft. southwesterly at right angles.
Bldg. derrick.

Stanolind O. & G. Co.'s Drlg. District 5, No. 1, center of Lot No. 2, Blk. 7.
Location.

Stanolind O. & G. Co.'s Drlg. District 8, No. 1, center Lot 16, Blk. 32.
Location.

Stanolind O. & G. Co.'s Drlg. District 10, center Lot 16, Blk. 28.
Location.

Stanolind O. & G. Co.'s No. 1 fee, 330 ft. S, 300 ft. E of NW cor. of 20-ac. tract, H.T.&B. Sur. No. 5.
T.D. 5,605 ft., washing to bottom.

Stanolind O. & G. Co.'s No. 1 Hartow, C Lot 10, Blk. 82, 1,390 ft. E, 660 ft. S of No. 1, H.T.&B. Sur. No. 5.
Coring shale 6,170 ft.

Stanolind O. & G. Co.'s No. 1 Ed Wells, C Lot 3, Blk. 146, 1,240 ft. E, 2,270 ft. N of No. 1, H.T.&B. Sur. No. 5.
T.D. 5,578 ft., changing bits.

Tomball—Harris County

Amerada Stanolind No. 1 Hilligeist, J. House Sur.
T.D. 5,578 ft.; set 7-in. csg. at 5,572 ft.; I.P. 501 bbls. per day, ¾-in. choke; T.P. 550 lbs.; C.P. 1,025 lbs.

Amerada Pet.-Stanolind O. & G. Co.'s No. 1 Hilligeist, 550 ft. NS line, 168 ft. WE line of 11-ac. tract, J.House Sur.
Drlg. shale 4,910 ft.

Humble O. & R. Co.'s No. 2-B Michel, 466 ft. S of N line of Sec. 190, 388 ft. E of W line, Jesse Pruitt Sur.
10¾-in. csg. 923 ft.; W.O.C.

Humble O. & R. Co.'s No. 1 Mrs. Jessie Mahaffey, 550 ft. E of W line, 432 ft. N of S line of 132-ac. tract, Jesse Pruitt Sur.
Rigging up.

Humble O. & R. Co.'s No. 3 Faris, 1,211 ft. NS line, 1,921 ft. W of most easterly E line of lease, W. Usner Sur.
Drlg. shale 4,406 ft.

Humble O. & R. Co.'s No. 2 Theis, 466 ft. SN line, 500 ft. WE line, C. N. Pillot Sur.
Coring sand 5,577 ft.

Humble O. & R. Co.'s No. 4-B Kobbs, 550 ft. E of most westerly W line, 466 ft. S of most northerly N line, J. H. Edwards Sur.
T.D. 5,610 ft., reaming.

Humble O. & R. Co.'s No. 1-B Michel, 466 ft. from W line on line between Lots 178-182, J. Pruett Sur.
T.D. 5,566 ft.; cmtd. 7-in. csg. at 5,-561 ft.; I.P. 24 bbls. per hour thru ¼-in. choke; T.P. 850 lbs.; C.P. 925 lbs.

Humble O. & R. Co.'s No. 1 Michel, 491 ft. E of W line of Sur. and on line between lots 178 and 182 Tomball Townsite, J. Pruitt Sur.
Location.

Humble O. & R. Co.'s No. 1 Spell, Elizabeth Smith Survey, 466 ft. from SW line, 466 ft. from SE line.
7-in. csg. 5,674 ft.; T.D. 5,680 ft.; abd.

Shell Pet. Corp.'s No. 4 Rudel, 1,266 ft. W of E line, 420 ft. from N and S lines of 30-ac. tract, J. Pruitt Sur.
Derrick.

Mauritz-Jackson County

Smith and McDannald's No. 1 Mauritz, 467 ft. WE line, 394 ft. NS line of survey, J. Cummings Sur., Abst. 226.
Derrick, M.I.R.

Big Hill—Jefferson County

Stanolind O. & G. Co.'s No. 2-A Pipkin &

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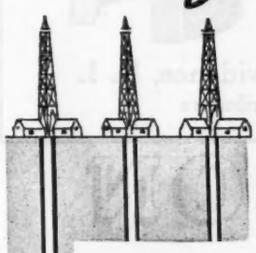

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ACCO

LAY·SET Preformed ROTARY LINES

Davis, 1,430 ft. SW of NE cor. of Pipkin & Davis lease along SE line of same and 50 ft. SE at right angles, William McFaddin Sur.
T.D. 5,953 ft.; drill stem stuck at 4,000 ft.
Stanolind O. & G. Co.'s No. 1-B Pipkin & Davis, 2,225 ft. from E line and 2,385 ft. from N line of survey, Wm. McFadden Sur.
Drlg. sandy shale 3,500 ft.

Fannett—Jefferson County

Blue Eagle Oil Co.'s No. 1 Junker, 50 ft. each way out of NW cor. of lease, W. H. Smith Sur.
Rig up.
Gulf Prod. Co.'s No. 9 Burrell, 2,010 ft. N along W line of 233-ac. tract from SE cor. of Thomas 446-ac. tract, thence 350 ft. E at right angles, W. H. Smith Sur.
Rig up.

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St. Louis 50 Church St., New York Tulsa

Rig up.

Cleveland—Liberty County

Gulf Prod. Co.'s No. 11-C Kirby, 1,024 ft. N, along W line of J. Pleasant Sur., from NE cor. of J. Eldridge Sur. and 1,400 ft. E at R/A to said line, J. Pleasant Sur.
10¾-in. csg. at 1,008 ft.; T.D. 1,024 ft.

Esperson—Liberty County

General Crude Oil Co.'s No. 3 Davis (O. W.D.D.)
Drlg. shale and lime 4,090 ft.
General Crude Oil Co.'s No. 10 Moore's Bluff (work over)
Milling on csg. 2,747 ft.
General Crude's No. 1 Hlavaty, 467 ft. out of SE cor. of F. M. Gardner Sur.
T.D. 7,279 ft., reaming.

Hankamer—Liberty County

Eastman-Ward's No. 1 R. E. Lee, 115 ft. from N line of lease and 76 ft. W of west bank of White Bayou, Geo. Stengler Sur.
Drlg. shale 2,444 ft.
Eljean Oil Co.'s No. 2 Ezell, 600 ft. due W of No. 1, 130 ft. from N and S lines of Levi-Barrow Sur.
Coring 4,068 ft.
Eljean Oil Co.'s No. 1 Thomas, 300 ft. W of E line, 200 ft. SN line, Levi Barrow Sur.
Spudded and S.D.
Gulf Prod. Co.'s No. 5 Crow & Jacobs, 2,900 ft. N, 2,140 ft. E of SW cor. of 300-ac. lease, H.&T.C. Sur.
Drlg. sand 1,870 ft.
Gulf Prod. Co.'s No. 23 Boyt.
Coring sand and shale 4,881 ft.
Gulf Prod. Co.'s No. 21 E. W. Boyt, 110 ft. from W line of Amos Allen Sur.
Location.
Wilson-Broach Oil Co.'s No. 3 McLean-Crook, 100 ft. NS line and EW line of 33-ac. tract, L. Barrow Sur.
T.D. 3,578 ft.; prepare to make drill stem test.

Hull—Liberty County

R. Boggett's No. 3 Boggett, 75 ft. W of No. 2 J. Devore League.
S.D. 351 ft.
Gulf Prod. Co.'s No. 110 Phoenix, 1,943 ft. S along W line from NW cor. of 300-ac. lease, and 1,225 ft. E at right angles, J. Devore League.
Rig up.
Republic Prod. Co.—Houston Oil Co.'s No. 158 Dolbear, 170 ft. NW of No. 99 and 250 ft. SW of No. 156, J. Devore League.
Rig up.

Van Vleck—Matagorda County

Skelly Oil Co.'s No. 1 Cobb, (work over)
Pulling screen to deepen to 7,500 ft.
Skelly Oil Co.'s No. 3 Cobb "B," 2,760 ft. from NW line, 2,900 ft. from SW line of M. Cummins Sur.
T.D. 8,708 ft.; to P.B. to approx. 7,890 ft.; perforated csg. 7,936-39 ft.; flowed gas and salt water on D.S.T.; P.B. from 7,942 ft. to 7,635 ft.; W.O.C.

Conroe—Montgomery County

Humble O. & R. Co.'s No. 77-A South Texas Dev. Co., 933 ft. N of No. 76-A, 1,603 ft. NE of SW line Theodore Slade Sur.
T.D. 5,089 ft.; perforated csg.; swabbed 50 per cent oil and 50 per cent salt wtr.
Sun Oil Co.'s No. 24 Keystone Mills.
Drlg. shale and lime 4,029 ft.; T.D. 5,120 ft.; set screen.
Sun Oil Co.'s No. 29 Foster.
T.D. 5,120 ft.; set screen.
Sun Oil Co.'s No. 10 Keystone Mills.
Derrick.

Splendora—Montgomery County

Bryce McCandless et al's No. 1 Texas Long Leaf Lbr. Co., 330 ft. from N and E lines of the W½ of Blk. No. 8, Walker County School Land Sur.
Derrick.

Orange—Orange County

Brownie Bobbette's No. 2 McLean.
Coring 3,587 ft.
Orange Pet. Co.'s No. 12 Chisson.
T.D. 4,320 ft., prepare to test.
Trio Oil Co.'s No. 2 Cormier.
S.D. 3,035 ft.

Port Neches—Orange County

Texas Co.'s No. 4-A Polk, 400 ft. N, 125 ft. E from SE cor. of Mary Hall Sur. No. 1, being in the T. J. Notgrass Sur.
Rig up.

Livingston—Polk County

Gem Oil Co.'s No. 2 Cavanaugh-Collins, 660 ft. S of No. 1, 330 ft. E of Center Road, A. Viesca Sur.
M.I.R.
Gem Oil Co.'s No. 7 Davis & Holmes (work-over).
T.D. 4,332 ft.; cmtd. 5-in. csg. at 4,294 ft.; I.P. 419 bbls. per day, ¼-in. choke; T.P. 600 lbs.; C.P. 1,050 lbs.
Humble O. & R. Co.'s No. 14 Granbury, 2,306 ft. SE of NW line, Sec. 10, 1,274 ft. SW of NE line, Sec. 10, A. Viesca Sur.
Drlg. shale 4,210 ft.
Humble O. & R. Co.'s No. 16 Granbury, 1,399 ft. from NW and 466 ft. from NE lines of Block No. 11, A. Viesca Sur.
Location.
Ownby-Shell Pet. Corp.'s No. 4 Pratt, 466 ft. out of NW cor. of 197-ac. lease, A. Viesca Sur.
Derrick.
Sun Oil Co.'s No. 8 Pratt, 466 ft. NE of SW line, 933 ft. SE of No. 7 Pratt, A. Viesca Sur., 7 Leagues, A-77.
T.D. 4,353 ft.; cmtd. 7-in. csg. at 4,242 ft.; I.P. 55 bbls. in 24 hrs., ¼-in. choke; T.P. 1,000 lbs.; C.P. 1,350 lbs.
Sun Oil Co.'s No. 6 Pratt, 330 ft. from S line of lease, 660 ft. W of No. 2, A. Viesca Sur.
Rig up.

Tom O'Connor—Refugio County

Quintana Pet. Co.'s No. 20-A, Thomas O'Connor, 1,500 ft. SW of NE line, 933 ft. E of No. 11-A J. M. Sevisher Sur.
T.D. 5,909 ft., prepare to test.
Quintana Pet. Co.'s No. 21-A Thomas O'Connor, 1,500 ft. SE of NW line, 1,750 ft. NE of No. 17-A J. M. Sevisher Sur., Blk. 36.
T.D. 5,885 ft., testing.

Colette Creek—Victoria County

American-Liberty Oil Co.'s No. 3 J. Machalee, 330 ft. E of country road, 330 ft. NE of SW line, R. Manchola grant.
7-in. csg. 2,848 ft.; W.O.C.; I.P. 50 bbls.
Camp's No. 1 Kastner, 330 ft. from NE and SE lines of 52-ac. tract, Manchola Sur.
Moving in.

Placedo—Victoria County

Barnsdall-Felmont Oil Co.'s No. 1 Pickering, 330 ft. NW line, SW line and railroad, NE offset to No. 1 Gray, S.A.&M.G. Sur.
T.D. 4,778 ft. 6⅝-in. csg. 4,771-81 ft.; prepare to test.
Barnsdall Oil Co.'s No. 1 Smith, 330 ft. from NW line, 420 ft. from railroad, A. Murey Sur.
Rig up.
J. McDowell's No. 1 Kirasek, center Blk. 45, Placedo Townsite.
Location.
C. F. McGrew's No. 1 Hadley, center of 20-ac. lot, S.A.&M.G. Sur., Sec. 9, Blk. 49, Lots 1 and 2.
Location.
Smith and Gulf Prod. Co.'s No. 1 Boehn, 330 ft. each way out of NE cor. of Lot 8, S.A.&M.G. Sur.
Location.
E. L. Smith Oil Co.'s No. 1 Wright, 660 ft. SE of No. 1, 330 ft. SW of railroad.
7-in. csg. 4,750 ft., swabbing.
Sun Oil Co.'s No. 2 Marek, 420 ft. from E line, 320 ft. from S line of J. M. Brownson Sur.
Spudded 100 ft.
Westgate Oil Co.'s No. 1 Henderson and Pickering, 330 ft. each way out of SW cor. of Lot 76, S.A.&M.G. Sur.
Location.

Clay Creek—Washington County

Pompy et al's No. 1 Klatte, J. F. Perry League, 150 ft. each way out of NW cor. of 50-ac. tract.
T.D. 1,240 ft.; shale.
Sun Oil Co.'s No. 3 Theo Qeube, 450 ft. from SE line and 150 ft. from NE line of 68.3-ac. tract, J. T. Perry Sur.
Location.
Sun Oil Co.'s No. 4 Schimmer, 150 ft. SE of NW line, 450 ft. SW of No. 2, Nester Clay Sur.
T.D. 1,157 ft.; I.P. 5 bbls. per day.

Louise—Wharton County

Pure Oil Co.'s No. 1 H. F. Whiteside, 660 ft. NE and 330 ft. SE of W cor. of 80-ac. tract, M.&C. Sur., Sec. 19.
Moving in material.
Pure Oil Co.'s No. 1-B Garrett, 506.47 ft. NE, 429.5 ft. SE from W cor. of Sur No. 27, Morris & Cummings Sur.
Drlg. shale 5,614 ft.

Pickett Ridge—Wharton County

Texas Co.'s No. 4-A Pierce, 1,980 ft. S. 32 degrees E from Pierce No. 3-A H.& G.N. Sur., Sec. 38.
Bldg. derrick.

SOUTH LOUISIANA FIELDS

Black Bayou—Cameron Parish

Shell Pet Corp.'s No. 27 Watkins, 1,921 ft. S, 179 ft. E of NW cor. of Sec. 17-12s-12w.
Spudded.
Shell Pet. Corp.'s No. 28 Watkins, 1,929 ft. S, 925 ft. E of NW cor. of Sec. 17-12s-12w.
Location.
Shell Pet. Corp.'s No. 25 Watkins, Sec. 18-12s-12w.
T.D. 4,655 ft.
Shell Pet. Corp.'s No. 26 Watkins, 3,380 ft. W, 100 ft. S of NE cor. of Sec. 18-12s-12w.
Location.
Shell Pet. Corp.'s No. 24 Watkins, 2,833 ft. W, 695 ft. S of NW cor. Sec. 18-12-12.
Drlg. shale 3,919 ft.

Bay St. Elaine

Texas Co.'s No. 3 School Board, Sec. 16-22s-16e.
Location.

Caillous Island—Terrebonne Parish

Texas Co.'s No. 1 State Terrebonne Bay, Sec. 19-23s-20e.
Cor. sandy shale and lime 5,411 ft.; no report.
Texas Co.'s No. 27 State, Sec. 17-23s-20e.
Drlg. sand 5,110 ft.

Tepetate—Acadia Parish

Continental Oil Co.'s No. 1 Federal Land Bank, cen. of S½ of NW¼, NW¼ Sec. 28-7s-2w.
Drlg. shale streaks and hard lime 6,295 ft.
Continental Oil Co.'s No. 1 Henry Klumpp, 660 ft. W, 330 ft. S of NE cor. of Sec. 34, Twp. 7s-2w.
Drlg. shale 8,290 ft.
Continental Oil Co.'s No. 1 Homeseekers

Dev. Co., 3,300 ft. W, 2,640 ft. N of SE cor. of Sec. 29-7s-2w.
Drlg. sticky shale 7,675 ft.

Darrow—Ascension Parish

Humble O. & R. Co.'s No. 4 Gumble, 323 ft. at right angles to SW line of 121.9-ac. tract and 541 ft. SE from No. 2, Sec. 33-10s-2e.
Drlg. shale 4,001 ft.

Humble O. & R. Co.'s No. 6 Community, 510 ft. S of No. 5, 353 ft. SW from NE line, 1,230 ft. SE from No. 2, Sec. 31-10s-2e.
Coring sand 5,254 ft.

Sorrento—Ascension Parish

Athens Oil Co.'s No. 2 United Land, 400 ft. W of No. 2, Sec. 15-10s-4e.
Location.

Cameron Meadows—Cameron Parish

Magnolia Pet. Co.'s No. 14 Cameron Meadows, 296 ft. W, 150 ft. S of NE cor. Sec. 21-14s-13w.
T.D. 4,350 ft.; D.S.T. from 4,313-46 ft.; open 10 minutes; recovered 900 ft. of oil and 100 ft. of sand and mud; cmtd. 9⅝-in. csg. at 4,319 ft.; W.O.C.
Tested gas, pulling screen and liner to drill deeper.

Burton Sutton Oil Co.'s No. 9 School Land, 551 ft. N of S line, 293 ft. W of E line of Sec. 16-14s-13w.
Location.

Burton Sutton Oil Co.'s No. 4 School Land, Sec. 16-14s-13w.
Derrick.

Choctaw Dome—Iberville Parish

Standard Oil Co.'s No. 6 Gay, 400 ft. N, 50 ft. W of No. 5, Sec. 52-9s-11e.
Location.

Zeni Oil Co.'s No. 1 Schwing, Sec. 19-17s-24e.
Coring 5,885 ft.

Dog Lake—Terrebonne Parish

Texas Co.'s No. 11 State, 1,100 ft. N, 2,476 ft. W of SE cor. of Sec. 21-21s-16e.
S.D. 2,014 ft.

Four Isle—Terrebonne Parish

Texas Co.'s No. 6 State, 1,933 ft. S, 2,100 ft. W of NE cor. of Sec. 23-21s-16.
Drlg. shale 3,927 ft.

Texas Co.'s No. 8 La. Land & Expl. Co., 2,177 ft. E, 1,385 ft. S of NW cor. Sec. 24-21s-16e.
Drlg. shale 3,037 ft.

Texas Co.'s No. 5 State, 885 ft. S, 2,327 ft. E of NW cor. of Sec. 24-21s-16e.
Location.

Garden Island Bay—Terrebonne Parish

Texas Co.'s No. 13 State, 3,391 ft. S and 1,604 ft. W of NE cor. Sec. 107-22-32.
Rig up.

Gillis—Calcasieu Parish

Fohs Oil Co.'s No. 7 Castle, 1,115 ft. S, 350 ft. E of NW cor. of NW cor. of NW¼ of SE¼ Sec. 14-9s-8w.
Drlg. sandy shale 4,945 ft.

Fohs Oil Co.'s No. 1 Airhart, 275 ft. W and S of NE cor. Sec. 14-9-8.
T.D. 9,246 ft.; P.B. to 7,060 ft.; drilled to 7,090 ft.; tested 25 lbs. pressure, 27 thribbles oil.

Fohs Oil Co.'s No. 6 Castle, 300 ft. S, 700 ft. E of NW cor. of SW¼ of SW¼ Sec. 13-9s-8w.
T.D. 7,102 ft.; oil sand; running 7-in. csg. at 6,976 ft.; I.P. 30 bbls. per day, ¼-in., T.P. 1,100 lbs.

Texas Co.'s No. 6 Nickerson, 287 ft. N, 289 ft. W of SE cor. of NW¼ Sec. 12-9s-8w.
T.D. 6,710 ft.; running csg. in oil sand from 6,702-07 ft.

Union Sulphur Co.'s No. 4 Barbe, 996 ft. N, 329 ft. W of SE cor. of NE¼ Sec. 11-9s-8w.
Drlg. shale 5,740 ft.

Union Sulphur Co.'s No. 4 Reeves, 950 ft. W, 290 ft. S of NE cor. of SW¼, NW¼ Sec. 12-9s-8w.
Drlg. shale 3,730 ft.

Union Sulphur Co.'s No. 3 Castle.
T.D. 8,580 ft.; P.B. 5,075 ft.; cored oil sand from 5,770-77 ft.; preparing to set 7-in. csg.

Union Sulphur Co.'s No. 7 State, 1,316 ft. N, 199 ft. E of SW cor. Sec. 12-9s-8w.
Location.

Union Sulphur Co.'s No. 8 State, 885 ft. W, 52 ft. N of SE cor. of NE¼ Sec. 1-9s-8w.
T.D. 6,763 ft.; oil sand; running 7-in. csg.; I.P. 560 bbls. per day thru ¼-in. choke.

Union Sulphur Co.'s No. 12 State, 2,310 ft. N, 1,850 ft. E of SW cor. of Sec. 12-9s-8w.
T.D. 7,694 ft.; P.B. 7,545 ft.

Union Sulphur Co.'s No. 13 State, 1,464 ft. E, 2,088 ft. N of SW cor. of Sec. 12-9s-8w.
Location.

Gueydan—Vermillion Parish

Pure Oil Co.'s No. 6 Alliance Trust, 667 ft. E, 1,787 ft. S line of lease, Sec. 34-11s-1w.
T.D. 9,545 ft.; milling at 9,084 ft.

Hackberry—Cameron Parish

Calcasieu Oil Co.'s No. 5 Hanzen, 2,520 ft W, 303 ft. S of NE cor. of Sec. 14-12s-10w.
Location.

Gulf Refg. Co.'s No. 19 Erwin, 1,315 ft. W along S line of the SE cor. of Sec. and 960 ft. at R/A to S line, Sec. 12-12-10w.
Drlg. shale 7,610 ft.

Stanolind O. & G. Co.'s No. 14 Gulf Land, Sec. 14-12s-10w.
Coring 5,443 ft.

Texas Co.'s No. 18 State, N 13 deg. 20 ft. W, 4,000 ft. from No. 13, Sec. 44-12s-9w.
Location.

New Iberia—Iberia Parish

Harrison & Abercrombie's No. 4 Schwing, Sec. 56-12s-7e.
Drlg. hard sand 6,408 ft.

Texas Co.'s No. 1-B Hanzen, 1,418 ft. NE along NW line from most W cor., thence SE at right angle, Sec. 54-12s-7e.
Made 12-min. D.S.T. from 5,385-5,401 ft.; tested 1,464 ft. of pipe line oil, 40 ft. of drlg. mud, 100 ft. of sand through ¼-in. on top and bottom; no showing of salt wtr.; running csg. to test.

IOWA—Calcasieu and Jeff Davis Parish

Shell Pet. Corp.'s No. 13 Heyd, 1,068 ft. S, 330 ft. W of NE cor. of NW¼ of Sec. 13.
Coring sand at 6,956 ft.

Jennings—Acadia Parish

Abshire-Bolyard's No. 3 Clemonds, 3,500 ft. N, 95 ft. E of SW cor. Sec. 46.
T.D. 2,039 ft.; W.O.C.

Yount Lee Oil Co.'s No. 15 Houssiere-Latriele.
Drlg. shale 6,208 ft.; no report.

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"TOLEDO" No. 1BR
1" TO 2" RATCHET

Lake Hermitage—Plaquemines Parish

Humble O. & R. Co.'s No. 1 State Land, 1,020 ft. E, 200 ft. N of Texas Gulf No. 6, Sec. 11-18s-25e.
T.D. 3,689 ft.; sidetracked from 2,330 ft.; drlg. shale 3,437 ft.

Lake Pelto—Terrebonne Parish

Texas Co.'s No. 14 State, Sec. 8-23s-18e.
Rig up.

Lake Barre—Terrebonne Parish

Texas Co.'s No. 35 Lake Barre, Sec. 40-21s-19e.
Drlg. shale 3,520 ft.

Leesville—Lafourche Parish

Texas Co.'s No. 38 L.L.&E., 201 ft. W and 292 ft. S of NE cor. of SE¼ of Sec. 27-21s-22e.
Derrick.
Texas Co.'s No. 25 Leesville.
Derrick.
Texas Co.'s No. 23 Leesville, 975 ft. S, 1,975 ft. W of NW cor. of SW¼ Sec. 26-21-22.
Location.
Texas Co.'s No. 32 Leesville, 890 ft. S, 2,484 ft. W of NE cor. SE¼ Sec. 27-21s-22e.
Rig up.

Lockport—Calcasieu Parish

Magnolia Pet. Co.'s No. 10 Farquhar, 200 ft. S, 200 ft. E of NW cor. SE¼ SE Sec. 8-10s-9w.
Rig up.

Roanoke—Jefferson Davis Parish

Glassel et al's No. 1 La. Irrigation Mill Co., 696.5 ft. E and 475 ft. N of SW cor. Sec. 1-9s-4w.
Location.

Humble O. & R. Co.'s No. 2 C. N. Taylor, 1,320 ft. E, 440 ft. S of NW cor. of SW¼ Sec. 12-9s-4w.
T.D. 7,805 ft., reaming.

Humble O. & R. Co.'s No. 1 Nelson Thomas, 880 ft. W of No. 2 Kratzer, 440 ft. N and W of SE cor. of 200-ac. tract.
T.D. 10,583 ft.; P.B. 8,875 ft.; tested gas; P.B. to 8,465 ft.

Shell Pet. Corp.'s No. 1 Jarnigan, 330 ft. E, 660 ft. S, NW cor. Sec. 12-9s-4w.
T.D. 10,750 ft.; plugging back.

Sweet Lake—Calcasieu Parish

Pure Oil Co.'s No. 13 Yount Lee, 800 ft. S, 66 deg. 42 ft. E of No. 12, Sec. 13-13-12.
Shale and shells at 4,608 ft.; no report.

Sulphur—Calcasieu Parish

Union Sulphur Co.'s No. 314 fee, 2,666 ft. N, 411 ft. W of Center Sec. 29-9s-10w.
Drlg. shale 2,410 ft.

Union Sulphur Co.'s No. 813 fee.
Drlg. sand 4,540 ft.

White Castle—Iberville Parish

Shell Pet. Corp.'s No. 8 Wilbert.
T.D. 6,009 ft.; fishing.

Shell Pet. Corp.'s No. 1 Adams, 2,340 ft. N, 100 ft. E of SW cor. of lease.
Drlg. out cement plug 8,942 ft.

Port Barre—St. Landry Parish

Gulf Ref. Co.'s No. 13 Wilson Cochran, 400 ft. E of W line, 750 ft. E of Texas Co.'s No. 2 Botany Bay, Sec. 4-6s-5e.
Drlg. gumbo 1,300 ft.

Miscellaneous Wildcats

TEXAS

Austin County

Deering & Kayser's No. 1 McClinton, 1,100 ft. NW line in center NE and SW of 115.5-ac. tract, Thomas Bell Sur.
Abd. 4,864 ft.

T. F. Wood et al's No. 1 Trenchman, 330 ft. from SE line of a 50-ac. tract, James Cummins Sur.
S.D. 750 ft.

Brazoria County

Gulf Prod. Co.'s No. 1 Wilkes & Smith, 5,510 ft. W along N line of 850-ac. tract from NW cor. of 211-ac. tract, thence 990 ft. S at R/A James Hall Sur.
Moving in.

R. R. Osborne's No. 1 John L. Jones 330 ft. each way out of N cor. of 8½ of Lot 7, Blk. 1, J. C. Smith Sur.
Derrick, moving in rig.

Texas Co.'s No. 2 Freeport Sulphur Co., Conception Arcola Sur.
Bldg. derrick.

Chambers County

Salt Dome Oil Co.'s No. 1 A. B. Lawrence, James Grant Sur., 2,650 ft. NW of SE line, 6,060 ft. SW of NE line.
Rig up.

Calhoun County

Continental Oil Co.'s No. 2 American National Realty Co., 660 ft. from NW line, 666 ft. from NE line of Sec. 6, Blk. C, Pedro Garcia Sur.
Cut 6-in. csg. 7,114 ft.; will sidetrack.

Colorado County

Trans-State et al's No. 1 Witte, 150 ft. S and E of most westerly NW cor. of H. White Sur.
Drlg. shale 3,450 ft.

Coyle & Concord's No. 1 fee, 550 ft. from N line, 1,950 ft. from E line of Sec. 45, I.&G.N. Sur.
10¾-in. csg. 610 ft.; T.D. 698 ft.

Fort Bend County

Texas Gulf Prod. Co.'s No. 1 K. B. Winston, 1,490 ft. E of W line, 238 ft. N of S line of 350-ac. tract, S. Isaacs Sur.
Bldg. derrick.

Thompson Drlg. Co.'s No. 1 T. A. Brown, 150 ft. from W line, 150 ft. from S line of 100.8-ac. lease, George Menefee Sur.
Drlg. shale 5,563 ft.

Grimes County

Dr. Marshall et al's No. 1-B Todd, 300 ft. from E line and 175 ft. from N line of 150-ac. tract in extreme NW cor. of county (25 ft. N of No. 1).
7-in. csg. 2,678 ft.; T.D. 2,815 ft.; could not bail fluid down in csg.; bailing.

Harris County

E. E. Young, tr.'s No. 2 P. S. Griffith, 3,476 ft. S of N line, 2,020 ft. E of W line of A. R. Bodman Sur.
Drlg. sandy shale 3,950 ft.

Jefferson County

Jack Frazier et al's No. 1 A. Oswald, 372 ft. N and E line of Oswald 102.6-ac. tract, M. Pevitot Sur.
10-in. csg. 1,310 ft.; drlg. shale 2,010 ft.

Humble O. & R. Co.'s No. 1-B McFaddin, C. T. Cade Sur., 330 ft. from S and W lines of the E 240-ac. tract.
T.D. 3,557 ft.; rig up to drill deeper.

Sun Oil Co.'s No. 1 Herbert & Braussard, 6,590 ft. NW along SW line and 650 ft. NE at R/A to SW line, B. Blackman Sur., Abst. No. 2.
Drlg. shale 8,282 ft.; 9⅝-in. csg. 8,210 ft.

Tatum and Pendergrass No. 1 B. W. Owens, 160 ft. E of W line and 225 ft. S of N line of Lot No. 3, Blk. 9, Range 9, Port Arthur Land Co. subdv., Joseph Grigsley Sur.
Rig up.

Matagorda County

Continental Oil Co.'s No. 1 Feife, J. S. Criswell Sur., 3,000 ft. E of W line, 2,800 ft. N of S line of survey.
T.D. 6,073 ft.; shale; rigging up to deepen.

Helmerich & Payne's No. 1 Hawkins, 850 ft. S, 70 deg. W of Cockburn Oil Co.'s No. 6 Hawkins.
Sidetracking at 5,285-92 ft.

Horace M. Smith, Inc.'s No. 1 Wadsworth ranch, 150 ft. out of S cor. of Lot No. 8, S. R. Fisher Sur.
Cored from 8,670-90 ft.; no recovery; coring ahead.

Sterling O. & R. Co.'s No. 1 Baer Estate, 5,274 ft. SW of S cor. of Van Dorn and Bailey Sur., 400 ft. NW at right angles in Samuel Hart Sur.
T. D. 1,820 ft.; 10¾-in. csg. set at 1,820 ft.; W.O.C.

Montgomery County

W. L. Belraski's No. 1 T. S. Foster, 1,282 ft. N of S line, 754 ft. E of W line of Blk. 45, J. M. De La Garza Sur.
Abd. 5,206 ft.

Turnbull & Irwin's No. 1 Carr, 330 ft. out of NE cor. of S 50 acres of W 100 acres of 200-ac. tract in Caddo-Allen Sur.
Abd. 5,973 ft.

Mid-Texas Oil Co.'s No. 1 Delta Land & Timber Co., 560 varas from W line, 200 varas from S line of Robert F. Oliver Sur.
T.D. 4,026 ft.; abd.

Orange County

Coker Oil Co.'s No. 1 S. T. Mansfield, 500 ft. S, 500 ft. W from NE cor. of 80-ac. tract, J. W. Hall Sur.
Drlg. shale 1,250 ft.

Polk County

Gulf Prod. Co.'s No. 5 Trinity County Lbr. Co., 1,017 ft. S of NE cor. of H. Y. Rook Sur., 444 ft. E of W line, O. Peterson Sur
Shale 3,588 ft.; drill stem stuck.

Perry Morgan et al's No. 1 K. H. Root, L. Costillian Sur.
T.D. 28 ft.; R.U.

Trinity County

P. C. Bundy's No. 1 Thompson Bros., 1,340 ft. N, 700 ft. E of SW cor. of J. Ceballos Sur.
Abd. 2,606 ft.

Victoria County

Texas Co.'s No. 1 J. J. Warden, 4,200 ft. N, 55 deg. E and 486 ft. N, 35 deg. W from SW cor. of Warden ranch, Edward McDonough League.
T.D. 5,629 ft.; sidetracked at 4,264 ft.; T.D. 4,494 ft.; 7-in. csg. 4,483 ft.; drlg. plug.

Washington County

C. J. Laas' No. 1 T. Weinert, 1,840 ft. SW from E cor. of survey, thence 250 ft. NW at R/A, T. P. Borden Sur.
S.D. 3,774 ft., contract depth, abd.

Wharton County

Navarro Oil Co.'s No. 1 Schoellman, 330 ft. S of S and E lines, 1,233 ft. from W line of Nasario Mansha Sur.
Drlg. shale 7,691 ft.

Pure Oil Co.'s No. 1 Paige, 1,397 ft. NE and 467 ft. SE from W cor. of 159.27-ac. lease, James Pirie Sur.
Drlg. shale 3,846 ft.

Sterling Oil & Ref. Co.'s No. 1 Frank Janik Sr., 1,859 ft. from N line, 467 ft. W from SE cor. of Janik tract, Johathan Scott Sur.
T.D. 8,867 ft.; running 5-in. csg. to be cemented above 7,867 ft.

Texas Co.'s No. 1-C Pierce Est., 3,400 ft. NW of SE line of John Caldwell League.
Drlg. shale and lime 4,057 ft.

SOUTH LOUISIANA

Calcasieu Parish

Nicholas McCaleb's No. 1 Grey, 2,200 ft. S, 1,200 ft. E of NW cor. Sec. 22-8s-13w.
S.D. 1,565 ft., temp. abd.

Cameron Parish

Magnolia Pet. Co.'s No. 1 J. B. Broussard, 330 ft. E and S, out of NW cor. of the SW¼ of SE¼ of Sec. 13-12s-9w.
Drlg. shale 8,230 ft.

East Baton Rouge Parish

Superior Oil & Prod. Co.'s No. 1 Duplanter-Community, 1,500 ft. westerly along the N line from the NE cor. of D. A. and E. A. Duplanter's 130.7-ac. tract, thence 320 ft. at R/A.
Drlg. sand and shale 10,220 ft.

Evangeline Parish

J. E. Ladue's No. 4 Vidrien, Sec. 34-3-2.
Rig up and S.D.

Sparks-Mitchell and Jacobson's No. 1 Vidrine, 1,114 ft. S, 1,060 ft. W of NE cor. Sec. 47-4s-2e.
Drlg. shale 1,410 ft.

East Feliciana Parish

Thompson Creek Oil Co.'s No. 1 Fannie Noland, 2,600 ft. E and 1,580 ft. N of SW cor. Sec. 70.
S.D. 1,589 ft.

Iberia Parish

Jefferson Lake Oil Co.'s No. 1 State, Twp. 12s-5e.
Drlg. shale 7,730 ft.

Meade Oil Co.'s No. 1 Hamilton, near town of Loze, in the NW cor. of parish, Sec. 38-12-5.
S.D. 200 ft.

Texas Co.'s No. 1 State Fausse Point.
Drill stem stuck at 6,400 ft.

Jefferson Davis Parish

Howard Naylor et al's No. 1 Johnson-Bordeaux, 1,734 ft. N, 52 deg. N, 45 min. E, and 1,853 ft. S, 37 deg. 15 min. E out of SW cor. Sec. 39-10s-3w.
Drlg. shale 3,250 ft.

Shell Pet. Corp.'s No. 1 Lacassan, 990 ft. N, 1,980 ft. E of SW cor. of Sec. 20-11s. 5w.
T.D. 2,525 ft.; reaming to set 13⅜-in. csg.

LaFourche Parish

Coastal Oil Co.'s No. 2 Constantine, 1,476 ft. N, 809 ft. E of SW cor. Sec. 26-21-22e.
Location.

St. Bernard Parish

F. F. Kramer's No. 1 Robinson, 200 ft. S, 200 ft. W of NE cor. of Sec. 78-14s-14e.
Location.

Emerald Pet. Corp.'s "Shell Beach Properties" No. 1, on S edge of Bayou Louis, Sec. 31-13s-15e.
T.D. 7,385 ft.; stuck drill stem; P.B. to 1,360 ft.; stuck drill stem; P.B. 1,723 ft.; S.D.

St. Martin Parish

Texas Co.'s No. 1 State Lake, 5,180 ft. E, 350 ft. N of SW cor. of Sec. 10-10s-9e.
Drlg. shale 3,530 ft.

Tide Water Oil Co.'s No. 1 Smedes, 990 ft. from N and E lines of 1,000-ac. tract, Sec. 57-11e-6w.
20-in. csg. 60 ft.; drlg. shale 1,430 ft.

Plaquemines Parish

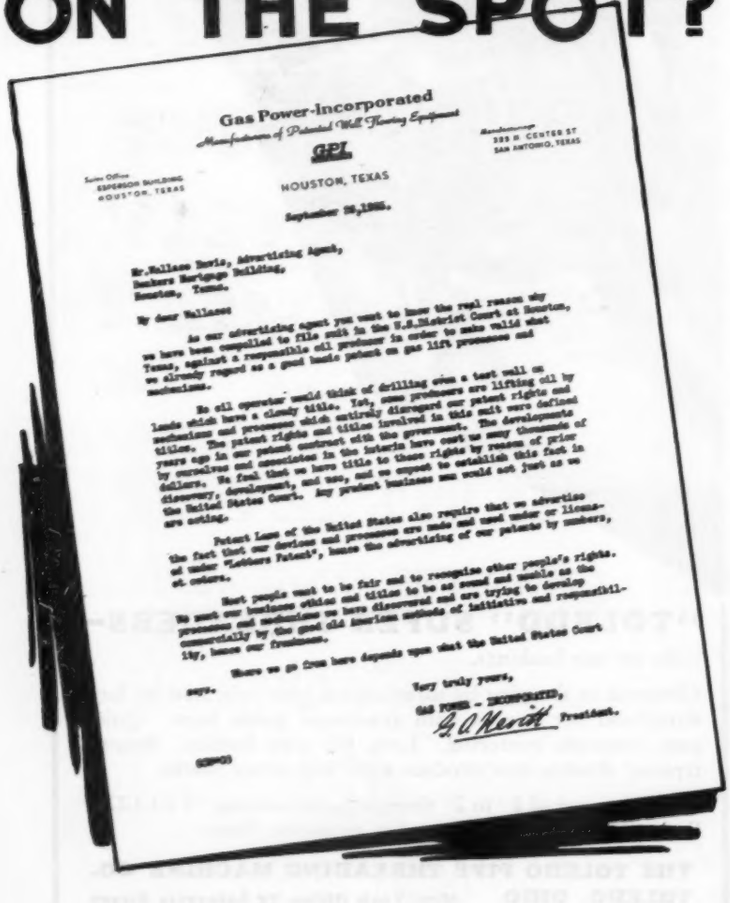
Lo-Tex Explrtn. Co.'s No. 1 Hero Plantation, Sec. 72-14s-24e.
Drlg. shale 4,650 ft.

Southern Sulphur Co.'s No. 1 Manhattan Fruit Co.
Drlg. shale 2,510 ft.

Rapides Parish

Amerada Pet. Corp.'s No. 1 Wells Land Co., 490 ft. from W line, 2,460 ft. from

Are You Among Those ON THE SPOT?


Gas Power-Incorporated
Manufacturers of Patented Well Flowing Equipment
GPI
Suite Office EDERSON BUILDING HOUSTON, TEXAS
HOUSTON, TEXAS
Manufacturing 323 E. CENTER ST. SAN ANTONIO, TEXAS
September 28,1925.
Mr.Wallace Davis, Advertising Agent,
Dunbars Mortgage Building,
Houston, Texas.
My dear Wallace:
In our advertising agent you want to know the real reason why we have been compelled to file suit in the U.S.District Court at Houston, Texas, against a responsible oil producer in order to make valid what we already regard as a good basic patent on gas lift processes and mechanisms.
No oil operator would think of drilling even a test well on lands which have a closely title. Yet, some producers are lifting oil by mechanisms and processes which entirely disregard our patent rights and titles. The patent rights and titles involved in this suit were defined years ago in our patented contract with the government. The developments by ourselves and associates in the interim have cost us many thousands of dollars. We feel that we have title to these rights by reason of prior discovery, development, and use, and we expect to establish this fact in the United States Court. Any prudent business man would not just as we are acting.
Patent Laws of the United States also require that we advertise the fact that our devices and processes are made and used under or license-of under "Letters Patent", hence the advertising of our patents by numbers, et cetera.
Most people want to be fair and to recognize other people's rights. We want our business ethics and titles to be as sound and usable as the processes and mechanisms we have discovered and are trying to develop commercially by the good old American methods of initiative and responsibility. Why, hence our frankness.
There we go from here depends upon what the United States Court says.
Very truly yours,
GAS POWER - INCORPORATED,
G. O. Hewitt President.
GOH:CS

The GPI SYSTEM of flowing wells is protected by numerous patents and hundreds of claims, as well as patents applied for. The policy of GAS POWER, INCORPORATED will be to enforce their rights under these patents. Copies of the following patents already issued will be furnished to interested, responsible parties, in order that everybody's rights may be defined and protected: 1,312,442 - 1,310,615 - 1,509,323 - 1,526,723 - 1,572,329 - 1,572,330 1,572,331 - 1,572,332 - 1,572,333 - 1,738,974 - 1,777,536 - 1,803,683.

S line of Sec. 53-1s-2e.
Reaming, T.D. 6,015 ft.

St. Tammy Parish

Danciger O. & R. Co.'s No. 1 Holdsworth, C NW¼ SE¼ Sec. 26-4s-14e.
Rig up.

Vermillion Parish

Terrebonne Parish

Dulac Oil Co.'s No. 1 Bourg, Sec. 10-20-17e.
Fishing 4,600 ft.

S. W. TEXAS WILDCATS

Week Ending October 5

Atascosa County

Robert McIntyre's No. 1 Billimek, 1,104 ft. SW line, 2,700 ft. SE line, J. D. Woodruff Sur. No. 246.
Location.

Bandera County

Plateau Oil Co.'s No. 1 Garrison, G.C.&S. F. Sur. No. 506, 1,500 ft. from W and 2,970 ft. from N lines of survey.
Drlg. hard shale 4,309 ft.

Palm Winn Oil Co.'s No. 1 Watson, 600 ft. N of center line, Sur. 71 (workover).
T.D. 2,035 ft.; standing.

Bastrop County

Marts & Bearuns' No. 1 Ella Scott, 600 ft. NW line, 150 ft. SW line, 200-ac. tract, McMullen Sur.
Location.

Bee County

D. V. Smith et al's No. 1 Atkins, M. M. Wood Sur.
Rigged up; standing.

Stratton & Heflin's No. 1 Brashear, 150 ft. NW line, 150 ft. SW line, 50-ac. tract, ¼ mile N Mineral, H. Coley Sur.
T.D. 3,906 ft.; D.&A.

Bexar County

Fay Chew's No. 5 Jones, Sec. 9, Pena Sur., 1½ miles E of Adkins.
S.D. 660 ft.

Jas. B. Cunningham's No. 1 L. F. Ridder, 950 ft. S of Nelson Road, 1,300 ft. from E line, Block 5,196, Sur. No. 58.
T.D. 860 ft.; S.D.

Dorine Oil Co.'s No. 2 Tudyk, 400 ft. E line, 260 ft. S line, 315-ac. tract, Cordenas Sur.
T.D. 760 ft.; P.B. 610 ft. to test at 575 ft.; cleaning out.

Joe Dupree's No. 2 Coffey, 995 ft. SW line, 910 ft. SE line lease, Rodriquez Sur.
Skidding derrick.

C. J. LeComte's No. 1 Herbst, 150 ft. out of SW cor. of Manuel Leal Sur.
T.D. 370 ft.; wtr. sand; S.D.

McPhee & Briggs' No. 1 F. Lamb, 9,200 ft. from S line, 800 ft. from W line of Sur. No. 3 (Manuel de Luna).
T.D. 2,337 ft.; standing.

Mid-Texas Prod. Co.'s No. 1 C. G. Walker, 330 ft. out of NE cor. Lot 21, S. M Dobie Sur. No. 79.
T.D. 2,100 ft.; good oil show, underreaming.

Morgan & Magna's No. 1 Kirkwood, Desaque Sur., 9 miles SW of San Antonio.
Location.

J. H. Parker's No. 1 McCloskey, 150 ft. W line, 1,525 ft. N line, tract, Desaque Sur.
T.D. 530 ft.; S.D.

Carroll C. Raborn's No. 1 Claude McCauley, 150 ft. from N and NW lines of tract in Sec. 52, Wm. Harrison Sur.
T.D. 950 ft.; standing.

Fred Thorman's No. 1 Sahn, 330 ft. E line, 600 ft. S line of tract, Sur. No. 3.
Location.

Blanco County

H. R. Roe & W. E. Nixon's No. 2 Polk-Morrisey, 1,545 ft. N line, 899 ft. E line, 222-ac. tract, Thos. Webb Sur. No. 91.
No report.

Brooks County

Winfield and Mosser's No. 1 Singer, 660 ft. N and E lines, SE¼ Sec. 312.
Drlg. 450 ft.

Caldwell County

J. J. Elam's No. 1 Brown, 450 ft. SE and SW lines of lease, Souvereign Sur.
Derrick.

Cameron County

Joseph Anderson's No. 1 Browne, 330 ft. N line, Blk. 379, San Benito Subd., Espirito Santo grant, 3 miles N Rio Hondo.
Standing 5,195 ft.

Kingwood & Daniels' No. 1 Port Isabel, Share 29.
Spudded in; S.D.

Dewitt County

Reginald F. Baurke's No. 1 W. C. Steinman Est., 937 ft. from N and S lines, Uriah Blue 1-3 League.
Drlg. 2,317 ft.

D. G. Glaspier's No. 1 Schuebel, 330 ft. from S and W lines of tract, Fitsgerald grant.
Set surface csg.; moving in larger rig.

Dimmitt County

Diamond Half Oil Co.'s No. 1 Eardley Est., 2,390 ft. SW line, 330 ft. NW line, E. A. McCorquodale Sur. No. 6.
Standing 2,158 ft.; tried to blow out.

Joe Lundin's No. 1 Nueces Sand, 330 ft. NE line, cor. Lot 16, Blk. 7.
Location.

Duval County

J. H. Chandler's No. 1 Rita Pena, 1,325 ft. of NW line, 3,825 ft. of SW line, Share 4, Mesquite grant.
T.D. 3,212 ft., standing.

A. E. Masterson's No. 1 Rogers, 2,310 ft. NE line, 1,650 ft. SE line, 40-ac. tract, H.&G.R. R.R. Co. Sur. 15.
Location.

Plymouth Oil Co.'s No. 1 Cuellar, 330 ft. NW and NE lines, Sur. 123.
S.D.; T.D. 2,128 ft.

Rogers O. & G. Co.'s No. 1 Smith-Corbill Est., 330 ft. S and W lines, NW¼ Sur. 494.
Location.

Santa Clara Oil Co.'s No. 1 Corbett, center N½, NW¼ Sec. 92.
Coring sand 2,934 ft.

Sun Oil Co. and Simms' No. 2 Warden & Draught, 250 ft. N line, 2,250 ft. W line, 640-ac. tract, G.C.&S.F.R.R. Co. Sur.
Sand 1,570-80 ft.; comp. 46 bbls.; C.P. 170 lbs., T.P. 75 lbs.

Texla Oil Corp.'s No. 1 D.C.R.C., 330 ft. from S and W lines, NE¼, Sur. 101, B.S.&F. Sur.
Location.

Edwards County

Paul Teas' No. 1 Stewart, C SE¼, Sec. 2, G.C.&S.F. Sur.
Location.

Frio County

W. D. Bacon's No. 1 Burns, 2,500 ft. S and W line, Thomas Clifton Sur.
Spudded in; S.D. due to rains.

Midland Oil Co.'s No. 1 Halff & Oppenheimer, 330 ft. S and W lines, Sur. 11.
Drlg. hard rock 30 ft.

Goliad County

Hendricks et al's No. 1 Gillette, 330 ft of NW and SW lines of tract, G. Gomez Sur.
Location.

Keystone Royalty Co.'s No. 2 M. Woods 330 ft. S and E lines, SE¼ 160-ac. tract, Sec. 13, Josefa Rios Sur.
Drlg. 2,862 ft.

Gonzales County

S. W. Forrester Oil Co., Inc.'s No. 1 Stein, 475 ft. of SW line, 1,033 ft. of SE line, 311-ac. tract, Bane Sur.
Set surface csg.; S.D.

Interallied Pet. Co.'s No. 1 Wells, 1,708 ft. S line, 185 ft. W line, Sec. 3, 648-ac. subvd., Wells Ranch.
Bane Sur.
Drlg. 2,060 ft., possibly in Navarro.

Resource Prod. Corp.'s No. 1 Hanbeck, 708 ft. NW line, 1919 ft. SW line, Salinas Sur.
Spudded in; S.D.

Guadalupe County

J. E. Clark's No. 1 Larison, 150 ft. E line road, Davis Sur.
Drlg. 2,407 ft.

Gallagher's No. 1 Lay, 150 ft. N and W lines tract, J. K. Davis Sur.
Drlg. 2,110 ft.

Bob Gode et al's No. 1 Hicks, 1,320 ft. from E line, 150 ft. from S line of 15½ ac. tract in Santo Y. Coy Sur.
T.D. 1,935 Glenrose, D.&A.

Grace et al's No. 1 Okletree, 400 ft. SE line, 1,600 ft. SW line, 404-ac. tract. Robert Smith Sur. No. 15.
T.D. 2,245 ft., abnd.

J. Harper's No. 1 Flucher, 220 ft. NE line (Creek), 150 ft. NW line tract. Robert Smith Sur. No. 15.
S.D. 1,650 ft.

Hopkins Bros. No. 1 Gabriel, 150 ft. NE and SE lines lease, Geo. Allen Survey.
Spudded in.

R. C. Robbins' No. 1 Manford, 1,980 ft. E line, 750 ft. S line, 100-ac. tract, Hodges League.
Spudded in.

W. T. Scrutchin's No. 1 A. H. Smith, 150 ft. from E line, 1,350 ft. from N line of 34.5-ac. tract, Jas. H. Cowan Sur.
T.D. 835 ft.; S.D.

Hidalgo County

Downey & Morton's No. 1 Daskom, 450 ft from E line, 55 ft. from S line of Blk 34, Por. 45.
T.D. 4,115 ft.; pulling csg.

Gulf States Oil Co.'s No. 1 Delta Orchards, 580 ft. from N line, 400 ft. W line, Lot 2, Blk. 73, Las Westanas Grant.
Rigging up.

Lensgraf-Walden-Carmen's No. 1 Brock & Showers, 330 ft. W line, 615 ft. S line, Lot 4, Blk. 12, Por. 80.
Spudding in.

Sloan et al's No. 1 Brock & Showers, 330 ft. S and W lines. Lot 9, Blk. 16, Por. 80
T.D. 6,000 ft.; S.D.

Jim Hogg County

Macon Pet. Co.'s No. 1 Gomez, 990 ft. E line, 330 ft. W line, Sur. 105.
T.D. 3,010 ft.; D.&A.

Miller & Pippin's No. 1 Yeager, 527 ft. E line, 150 ft. E line of Blk. 6, Sur. 20.
Fishing 3,630 ft.

G. C. Rankin's No. 1 Vela, NW cor. Lot 6 Sec. 5.
S.D. 63 ft.

Karnes County

Marts Pet. Co.'s (Harris & Jecker), No. 1 Cochran, 150 ft. from S line, 360 ft. from E line, McConnel League.
S.D. 200 ft.

R. G. Tonkin's No. 2 Henke, 2,670 ft. from SW cor., 330 ft. from W line (location changed).
Location.

Kendall County

J. C. Freeman's No. 1 J. M. Gerffers, 1,200 ft. out of SW cor. of 119-ac. tract, Mara Hodgson Sur., Sec. 796.
T.D. 102 ft.; S.D.

Southwestern Dev. Co.'s No. 1 Werner, 765 ft. W line, 1,645 ft. N line, J. F. Torrey Sur. No. 781.
Drlg. 670 ft.
No report.

Kerr County

Auld and Evans' No. 1 Heffner, 660 ft. N line, 330 ft. E line, Sec. 13, B.S.&F. Sur.
Spudding in.

Eastland Oil Co.'s No. 5-E Love, 1,580 ft. E line, 300 ft. N line, Sur. 1,591.
T.D. 5,625 ft.; moving in csg.

Kleberg County

Harry Clark's No. 1 Rodgers, Lot 5, Blk 36.
S.D. 750 ft.

Fidelity Oil Co.'s No. 1 Flato, 150 ft. S and E lines, Blk. 14, Sec. 40, K.T.&I. Sur.
Location.

Parr & Ponder's No. 1 Sam Michalk et al. 330 ft. from N line and 775 ft. from S line, Blk. 37, Sec. 5; 5 miles SE Kingsville.
T.D. 2,000 ft.; S.D.

LaSalle County

Rier & Witherspoon's No. 1 LaSalle Co., 1,320 ft. S and W lines, Sec. 19, Bland & Nelson Subd., O'Connor ranch.
Rigging up and drlg. wtr. well.

Lee County

J. Spivey's No. 1 First National Bank, 300 ft. S and E lines, 846-ac. tract, Mack Sur.
Location.

Live Oak County

E. H. Buchner's No. 1 McNeill, 300 ft. of SW cor. of 40-ac. tract, Blk. 8, McNeill Subd.
Location.

Earl Calloway's No. 1 Lyne, 895 ft. of W line, 330 ft. of N line, SW¼ SW¼ of M. M. Lyne Sur.
M.I.M.
Spudded in.

Conway & Beuscher's No. 1 Sanger, 50 ft. W line, 150 ft. SW line, 640-ac. lease, Sur. 224.
Drlg. 1,350 ft.

L. O. Gleason's No. 1 Fitzpatrick, Sur. 53.
Drlg. 50 ft.

McMullen County

Aransas Oil Co.'s No. 1 Reed, 330 ft. E line, 1,320 ft. S line, Spicer Sur.
Standing 1,680 ft.

Darby Pet. Co.'s No. 1 Hagist, 660 ft., N and W lines, Sur. 135.
Spudding in.

C. O. Garney's No. 1 Hagist, 330 ft. N and W lines, SE¼, Sur. 6.
Location.

L. O. Gleason's No. 1 Fitzpatrick, Blk. 36, Loving Sur. No. 52.
T.D. 910 ft.; S.D. due to rains.

Lightfoot & Wilkerson's No. 6 Lark, Blk. 113, Scrugham Sur.
Sd. 1,042-50 ft.; oil show; rerunning csg.

Marzo Oil Co.'s No. 1-B Hagist, 330 ft., S and E lines, Sec. 6.
Location.

Points et al's No. 1 Fahler, 432 ft. S line, 819 ft. E line of tract, Byrna pasture.
T.D. 1,004 ft.; standing.

S. G. Teichman's No. 1 Henry, 330 ft. E line, 900 ft. N line, S½, 115-ac. tract, Torres Sur. 20.
Location.

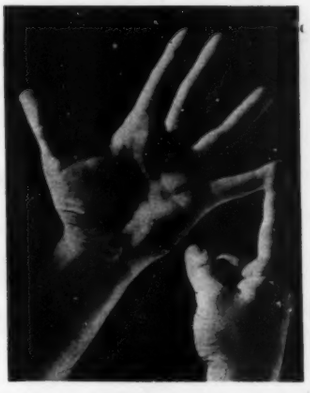
West & Stevenson's No. 1 Fisher, 330 ft. N and W lines, O'Boyle Sur.
Testing 2,460 ft.

Medina County

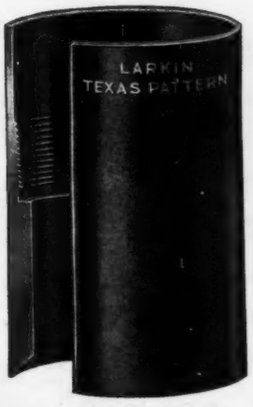
F. Brown's No. 1 Brucks, 900 ft. W line, 660 ft. S line, Brucks tract, John Ward Sur. No. 18.
No report.

First and Foremost—

LARKIN CASING SHOES



Have Perfect Threads!



Larkin Casing Shoes are forged from the highest grade steel obtainable (see analysis below). Then they are heat-treated and machined. The threads in Larkin shoes are cut on a thread miller with a thread hob. This guarantees a perfect thread, both as to pitch and taper.

No wonder Larkin Texas Pattern Casing Shoes are considered standard equipment with practically every major oil company.

No wonder Larkin has furnished more than 60% of all the casing shoes used in the Mid-Continent field since 1915!

Analysis of Steel Used in Larkin Shoes and Collars:

Carbon	.45 to .68
Manganese	.52 to .90
Silicon	.10 to .35
Phosphorous	.04 maximum
Sulphur	.04 maximum
TENSILE STRENGTH	77,000 lbs. MINIMUM

LARKIN PACKER COMPANY, ST. LOUIS

LARKIN PACKER CO.

Caroca Oil Co.'s No. 2 Roy Taylor, 600 ft. N line, 150 ft. E line, NE¼ W¼ Sur. 135.
S.D. 354 ft.

Joe Dupree's No. 1 Brucka, 404 ft. N line, 165 ft. E line, Castro Sur. No. 248.
Drlg. 637 ft.

Eckert & Sons' No. 1 Matt Keller, 215 ft. N line, 368 ft. W line, 300-ac. tract, Northington Sur., Sec. 8.
T.D. 1,220 ft.; s.w; abnd.

Ed Falvey's No. 1 McMenemy, 160 ft. S and W lines, Sur. 33.
M.I.M.

Latro Oil Corp.'s No. 1 E. B. Forrest, 1,928 ft. from N line, 1,908 ft. from E line of 640-ac. tract. Blk. 69.
Fishing for bit 370 ft.

Nueces County

Bluff Pet. Co.'s No. 1 Bluntzer, 330 ft. SW and SE lines, NE 1,007-ac. tract, Sec. 6, Casa Blanco grant.
Rigging up.

Camp's No. 1 Richard King, Sec. 22.
T.D. 4,350 ft.; S.D.

J. K. Coulton's No. 1 Baldwin, 330 ft. N line, 485 ft. E lines, 85.8-ac. tract, Blk. 20, Russell Farm Tracts.
Rigging up.

La Jita Corp.'s No. 1 King, C SE¼ SW¼ Sec. 32.
Coring 6,021 ft.

Real County

H. J. Heartwell et al's No. 2 Mrs. M. S. Perry, 250 varas from NW line, 775 varas from SW line of A.B.&M. Sur. No. 175
T.D. 3,220 ft.; oil show; to shoot with nitro, no report.

San Patricio County

Benedum & Trees' No. 1 Welder, 2,640 ft. N line, 660 ft. W line, Sec. 34.
Rigged up.

Willis Storms' No. 1 Hobbs, 377 ft. S and 47 deg. 30 min. E from W corner of 50-ac. tract, N 42 deg., E 622 ft. to center of tract, Delgado Sur.
S.D. 3,500 ft.

Starr County

Ash & Tackett's No. 1 Margo, 150 ft. S and E lines, Blk. 4, Share 3-B, Por. 70.
Drlg. 309 ft.

J. H. Clopton's No. 2 Roos & Bennett, Share 1-A, Por. 82, J. of Cain.
Spudded in.

Evans & James' No. 1 Ferry, 150 ft. S and SE lines lease, Por. 72.
Drlg. 509 ft.

McCurry & Yates' No. 1 S.C.C.C., 150 ft. W line, 510 ft. N line, Blk. 58, Porc. 89. Location.

McCurry & Yates' No. 2 S.C.C.C., 150 ft. E line, 510 ft. N line, Blk. 58, Porc. 89. Location.

Pedernal Oil Co.'s No. 2 Welsh, 630 ft. SE line, 930 ft. SW line, Lot 3, Welsh Subd., Pedernal grant.
Rigged up.

Pedernal Oil Co.'s No. 1 Hicks et al, 187 ft. from NW line, 318 ft. from NE line of Blk. 4, Pedernal Grant.
T.D. 2,210 ft.; S.D.

Travis County

G. A. Artz & Co.'s No. 1 Rolff, 454 ft. N line, 207 ft. W of tract, Hancock Sur.
T.D. 650 ft., shale; S.D.

C. B. Collard's No. 1 Blomberg, 150 ft. N line, 840 ft. E line, 99-ac. tract, McHenry Windburn Sur.
S.D. 660 ft.

Webb County

Austin & Vernon's No. 1 Jeffries, 150 ft. NE line, 1,170 ft. SE line, Blk. 13, Sur. 1,453.
Set surface csg.; S.D.; T.D. 40 ft.

E. T. Burton's No. 1 Billings, NE cor. of SW¼, Sur. 113.
Location.

D. E. C. Oil Co.'s No. 1 Slater, C Blk. 50, Sur. 15, Arispe grant.
Drlg. 377 ft.

French Oil Co.'s No. 1 Juan Guerra, 330 ft. N and W lines, Sur. 485.
Rigging up.

O. W. Killam's No. 40 Bruni, 330 ft. NW and NE lines, Sec. 1, Lot 32, Blk. 10, Arispe grant.
T.D. 2,607 ft.; D.&A.

O. W. Killam's No. 41 Bruni, Blk. 10, Sur. 14.
Location.

O. W. Killam's No. 1 Ortiz, 200 ft. SE line, 2,350 ft. S.W. road, Porc. 17.
Moving in material.

J. E. Neal's No. 1 Laurel Bros., 1,320 ft. of S and E lines, Sur. 1,119.
Rigged up; standing.

Magnolia Pet. Co.'s No. 1 Volpe Bros., 330 ft. N and W lines, Sur. 385.
Drlg. 490 ft.

Arthur H. Wray's No. 1 Geo. Stuempke, Share 1, Brewster pasture, Galan grant.
T.D. 1,424 ft.; S.D.

Willacy County

Kingwood Oil Co.'s No. 1 Santa Rosa, Inc., 160 ft. from E line, 637 ft. from S line of Sec. 30, Blk. 14, Share 44, San Juan de Carricitas grant.
S.D. 6,516 ft.

L. & S. Drlg. Co.'s No. 2 Armendiax, near Rio Hondo, 7,795 ft. from E and W lines of Share 14.
T.D. 5,300 ft.; S.D.

Williamson County

H. B. and Otto Glass' No. 1 Albert, 3 miles SE of Taylor.
S.D. 214 ft.; shale.

H. L. Goff et al's No. 1 Albert Klotz, 1,700 ft. from N line, 150 ft. from E line of 100-ac. tract, W. Cartwright Sur.
S.D. 1,250 ft.

Kothmann et al's No. 1 Albert Krueger, John Bevil Sur. No. 56, 1,400 ft. from NW line, 1,060 ft. from SW line, 113-ac. tract.
S.D.; shale 550 ft.

Rue et al's No. 1 Chas. Bachmayer, 6 miles SE Taylor.
T.D. 800 ft.; csg. parted; S.D.

J. M. Russell's No. 4 Nelson Est., 550 vrs. NE line, 150 vrs. SE line, J. L. Justice Sur. No. 2.
T.D. 604 ft.; lime; S.D.

Zapata County

H. F. Crows' No. 1 B. Uribe, Blk. 5, Share 11, Partitions 4 and 5, San Ignacio Subd., Borrego grant.
Derrick.

H. F. Crouis' No. 1 Ysagierre, 460 ft. S and W lines, Share 17, Por. 15.
S.D. 415 ft.

J. J. O'Hern's No. 1 Raymond, 330 ft. NW line, 330 ft. NE line, Blk. 5, Share E, Por. 27.
Drlg. 257 ft.

LA.-ARK. WILDCATS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

Avoyelles Parish

Bell Oil Co.'s No. 2 Thompson-Koltz, 450 ft. S, 350 ft. E, NW cor. Sec. 11-2n-5e.
Partly R.U. and S.D.

Bossier Parish

Ark.-La. Gas Co.'s No. 3 R. O. Roy, 748 ft. N, 1,270 ft. E, SW cor. Sec. 18-17-11.
Drlg. 3,770 ft.

Bossier O. & G. Co.'s No. 3 Sherrill, 320 ft. N and W, SE cor. Sec. 13-19-12.
Hole clean; arranging to core 2,025 ft.

W. E. Neil's No. 1 Curtis Plant, Sec. 19-17-12.
S.D. 230 ft.

Producers O. & G. Co.'s No. 1 Pettitt, 330 ft. S and W, NE cor. NW Sec. 17-17-11.
Rigging up.

Producers O. & G. Co.'s No. 1 Edwards 660 ft. N and W, SE cor. Sec. 27-18-11.
S.D. 704 ft.

R. L. Skidmore et al's No. 1 Davis, Sec. 12-18-13.
Dry and Abnd. 2,592 ft.

Douglas Spivey et al's No. 1 Bossier Dev. Co., 330 ft. N and E, SW cor. Sec. 16-18-11.
S.D. 815 ft.

Caddo Parish

J. Ed Bailey, tr.'s No. 1 Hartzo, NW cor. NE NW Sec. 28-22-16.
S.D. 1,236 ft.

John D. Bialock's No. 2-A Seybert, 270 ft. N and 320 ft. E of C Sec. 17-20-15.
Set 10-in. 42 ft.; drlg. 700 ft.

J. M. Collins' No. 1 fee, 2,042 ft. N, 394 ft. E, SW cor. Sec. 4-20-15.
Set 16-in. 40 ft.; drlg. 322 ft.

Holly Oil Co.'s No. 1 Thigpen & Herold, Sec. 15-20-15.
T.A. 2,293 ft.

F. D. Hyde's No. 1 Thigpen & Herold, 350 ft. S and E. C Sec. 5-15-15.
Hole clean W.O. 1,585 ft.

A. D. King, tr.'s No. 1 Roach, 641 ft. E. 275 ft. N, SW cor. SE Sec. 4-14-16.
Tested S.W.; arranging to deepen from 2,712 ft.

Leonard Co.'s No. 2 G. Muslow, 760 ft. N and W, SE cor. Sec. 17-20-15.
Comp.; 300,000 ft. gas, 799 ft.

Leonard Co.'s No. 3 Dickson, 1,625 ft. S, 587 ft. E, NW cor. Sec. 36-21-15.
Set 7-in. 2,230 ft.

Leonard Co.'s No. 46 Crystal, 250 ft. N and W, SE cor. SW NE Sec. 13-21-15.
Set 6-in. 1,026 ft.; W.O.S.R. 1,042 ft.

Max Brandt's No. 1 Hughes, SW cor. NE NW Sec. 15-20-15.
Drlg. 2,209 ft.

Puritan Oil Co.'s No. 1 Land, 550 ft. E, 250 ft. N, SW cor. Sec. 4-20-15.
Drlg. 1,510 ft.

A. C. Scott et al's No. 1 Noel Est., 330 ft. S and E, NW cor. Sec. 22-20-15.
W.O.S.R. 2,261 ft.

Shreveport Oil Corp.'s No. 2-G Muslow, 780 ft. S, 578 ft. W, NE cor. NW Sec. 9-20-15.
W.O.S.R. 2,185 ft.

Simplex Oil Co.'s No. 8 Thomas, SE cor. SW NE Sec. 15-20-15.
Dry and Abnd., 2,212 ft.

Triangle Agency's No. 1 Ellerbe, 872 ft. E. 80 ft. N, SW cor. NW Sec. 4-20-15.
W.O.S.R. 2,162 ft.

Ty-Stan, Inc.'s No. 1 Jolly, 400 ft. S and E, NW cor. SW SW Sec. 22-22-15.
Drlg. 2,115 ft.

Caldwell Parish

Caldwell Drlg. Co.'s No. 2 Gore, 280 ft. S. 600 ft. W, NE cor. SE Sec. 26-12-3e.
S.D.; W.O. 768 ft.

Critchett & Woods' No. 1 Kyles, NE cor. SW NE Sec. 18-11-3e.
P.B. to 1,698 to whipstock, old T.D. 1,728 ft.

G. W. Zeigan et al's No. 1 La.-Central Lbr. Co., 175 ft. S and E, NW cor. SW SW Sec. 25-13-3e.
S.D. 1,200 ft.

Catahoula Parish

McIntyre et al's No. 1 Tensas, 1,740 ft. S, 990 ft. E, NW cor. Sec. 15-19-6e.
Set 16-in. 347 ft.

Claiborne Parish

J. H. Lester's No. 1 Green, 330 ft. S and W of NE cor. NE NW Sec. 18-21-6.
Rigging up.

E. T. Oakes' No. 1 H. W. Patton Est., 660 ft. S and W, NE cor. Sec. 1-20-5w.
Drlg. 3,430 ft.

Ryan Oil Corp.'s No. 1 F. A. Gladney, 660 ft. S, 330 ft. E, NW cor. SE Sec. 10-23-16.
Rigging up.

De Soto Parish

E. B. Bird et al's No. 1 J. H. Johns, 330 ft. N and W, C Sec. 20-14-6.
S.D.; W.O. 2,630 ft.

Century Drlg. Co.'s No. 1 D. Bailey, 440 ft. S and W C Sec. 25-11-14.
Drlg. 1,675 ft.

DeSoto Pet. Co.'s No. 1 B. Y. Wemple, C S½ SE NE SW Sec. 14-12-11.
Arranging to set csg. 2,590 ft.

Sam Goldman's No. 1 G. R. Stell, 330 ft. S and W, NE cor. Sec. 5-12-14.
S.D. 200 ft.

Hunter Co.'s No. 1 S. J. Moats, 330 ft. S and 1,320 ft. W of C Sec. 25-12-15.
Drlg. 50 ft.

Jas Drlg. Co.'s No. 1-A Scales, 330 ft. N and E, SW cor. SE SE Sec. 35-13-12.
Drlg. 2,090 ft.

Leslie Prod. Co.'s No. 1 Ramsey, 150 ft. N and W of C Sec. 36-11-11.
Set 10-in. 45 ft.

National Oils, Inc.'s No. 1 B. Y. Wemple, NW SW Sec. 14-12-11.
S.D. 120 ft.

C. T. Ruffin's No. 2 Lee, 150 ft. N, 660 ft. E, SW cor. NW SW Sec. 33-14-13.
S.D. for wtr. 1,785 ft.

Grant Parish

Alexander et al's No. 1 Maxwell, Sec. 9-9-1e.
S.D. 525 ft.

Lincoln Parish

Herman L. Brown's No. 1 Monstead, 1,320 ft. S, 660 ft. E of C Sec. 10-17-4w
Coring 5,230 ft.

Madison Parish

San. Land & Exploration Co.'s No. 1 Delta Land Co., Sec. 1-17-12e.
S.D. 1,980 ft.

Morehouse Parish

Zeiger & Bacon's No. 2 Crossett Lbr. Co., 2,870 ft. N, 505 ft. E, SE cor. SE SW of Sec. 36, in Sec. 41.
S.D. 50 ft.

Ouachita Parish

American Liberty Oil Co.'s No. 1 Golson, C NW Sec. 25-17-1e.
Coring 5,252 ft.

Ark.-La. Gas Co.'s No. 12 Rex Green, 660 ft. S, 1,270 ft. W, NE cor. NW Sec. 3-18-4e.
Comp.; 1,500,000 ft. gas 2,170 ft.

Hamilton Gas Co.'s No. 2 Park, 830 ft. S. 232 ft. E. NW cor. Sec. 1-19-3e.
Set 6-in. 2,121 ft.

Inabnet & Piper's No. 1 Douglas, 123 ft. E and 396 ft. S of NW cor. NE Sec. 31-19-4e.
Set 12-in. 150 ft.; set 6-in. 2,141 ft.

Inabnet & Piper's No. 3 D'Arbone, 660 ft. N and W, SE cor. Sec. 28-19-3e.
Set 6-in. 2,130 ft.

Inabnet & Piper's No. 4 D'Arbone, 3,300 ft. S, 1,980 ft. E, NW cor. Sec. 34-19-3e.
Comp.; 750,000 ft. gas 2,190 ft.

United Gas Pub. Ser. Co.'s No. 1 Wall, 2,937 ft., 674 ft. W, SE cor. SW Sec. 33-19-3e.
Comp.; 1,500,000 ft. gas 2,174 ft.

Rapides Parish

Amerada Pet. Co.'s No. 1 Weil, 2,450 ft. N, 550 ft. E, SW cor. Sec. 53-1s-2e.
Coring 6,015 ft.

Natchitoches Parish

Ab Jones' No. 1 Brown Lbr. Co., 400 ft. N, 330 ft. W, SE cor. Sec. 5-10-10.
S.D. 1,033 ft.

Howard & Kittrell's No. 1 DeBlieux, 1,395 ft. E, 150 ft. S, NW cor. Sec. 53-10-7.
S.D. for fuel 1,400 ft.

Red River Parish

J. S. Tuffree's No. 1 Wilkinson, 1,320 ft. S and W, NE cor. Sec. 11-12-11.
S.D. 1,395 ft.

Sabine Parish

B. S. & M. Oil Co.'s No. 1 Tatum, 330 ft S and E, NW cor. NW SE Sec. 32-8-13.
Bailing to test, 2,100 ft.

G. H. Collins' No. 5 Cranford, 330 ft. N and E SW cor. SE SE Sec. 20-9-13.
Set 10-in. 60 ft.

Hill Myers' No. 1 Magness, Sec. 30-9-13.
Testing, 1,786 ft.

M. T. Hines' No. 1 J. B. Hill, SW NE Sec. 4-6-11.
S.W. and abd. 2,012 ft.

Jack Lent's No. 1 Williams, Sec. 13-7-11
S.D.; W.O. 2,451 ft.

Geo. L. Pace's No. 4 DeSoto Corp., 330 ft. S and W NE cor. SE SE Sec. 27-10-13.
Rigging up.

Lee Whitehurst's No. 4 Frost Lbr. Ind., 660 ft. N and 330 ft. E of SW cor. Sec. 20-9-13.
Set 10-in. 40 ft.; set 6-in. 1,513 ft.

Union Parish

Southern Carbon Co.'s No. 6 Grayling Lbr. Co., 600 ft. S, 1,900 ft. E, NW cor. Sec. 28-21-4e.
Set 10-in. csg. 170 ft.; set 8-in. 756 ft.

Southern Prod. Co.'s No. 1 Clark, 500 ft. N and W, SE cor. NW NW Sec. 17-22-1e
S.D. 2,396 ft.

Webster Parish

Bennett & Eldred's No. 1 Fulbright, NE NE Sec. 1-18-10.
S.D. 2,200 ft.

Winn Parish

Parsons et al's No. 1 Tremont Lbr. Co., 660 ft. S, 330 ft. E NW cor. SW Sec. 10-12-2w.
S.D. 1,120 ft.

ARKANSAS

Arkansas County

Grand Prairie Realty Co.'s No. 2 Fischer 412 ft. S, 12 ft. W, NE cor. NW NW Sec. 6-6-4w.
Went in hole over D.S. with 6-in., 1,550 ft.

Ashley County

Benedum & Trees' No. 1 Holmes, C NE SW Sec. 4-17-5.
Set 10-in. 768 ft.; drlg. 1,193 ft.

Glenn E. McFaddin et al's No. 1 Boreing Farms, 660 ft. S and W, NE cor. Sec. 1-18-8.
Junked and abnd. 2,800 ft.

Texas Seaboard Oil Co.'s No. 1 Bynum, 330 ft. N and W SE cor. SW NW Sec. 34-17s-4w.
Drlg. 50 ft.

Columbia County

J. G. Cubage et al's No. 1 Rhea, 150 ft. N line, 330 ft. E, SW cor. SE SE Sec. 12-17-22.
S.D. 3,506 ft.

Southern States Gas Co.'s No. 1 Piney Woods Lbr. Co., 330 ft. N and E, SW cor. NE NW Sec. 10-20-22.
Drlg. 1,300 ft.

Dallas County

McCall & Kelly's No. 1 Ray Owen, 330 ft. S and E, NW cor. NW SW.
Drlg. 1,028 ft.

Hempstead County

G. L. Glass, tr.'s No. 1 May B. O'Bier, Sec. 32-12-23.
Derrick.

F. W. Martin's No. 2 Lafferty, C NW Sec. 17-14-24.
Rigging up.

LaFayette County

Earl F. Fox' No. 2 Coleman Bros., NE NE Sec. 30-16-24.
Set 10-in. 135 ft.

Kamon & Neely's No. 1 Cockran, NW cor. SE SW Sec. 26-19-25.
S.D. 4,450 ft.

Joe Modisett's No. 1 Red River Lbr. Co., C SW SW Sec. 21-19-14.
S.D. 1,775 ft.

Riggs Bros.' No. 1 Dubose, SE cor. SW NW Sec. 35-15-24.
Coring 2,780 ft.

Transportation Pet. Co.'s No. 1 Cockran, 300 ft. S and W, NE cor. SE Sec. 26-19-25.
Drlg. 2,654 ft.

Miller County

M. D. K. Fitzwater's No. 1 E. H. Beck, 150 ft. N and E, SW cor. NW SW Sec. 34-15-26.
W.O.S.R. 2,919 ft.

C. W. Hayes' No. 1 State, 316 ft. E and 200 ft. N of SW cor. SE NE Sec. 31-15-25.
Set 10-in. 120 ft.

King Oil Corp.'s No. 1 G. W. Crank, SW NE Sec. 19-16-26.
Drlg. 2,042 ft.

C. V. Lenz's No. 1 A. Dean, NW cor. SE Sec. 24-15-26.
Derrick.

L. H. Mahon et al's No. 1 Miller Land & Timber Co., SW cor. SE Sec. 29-18-27.
Set 10-in. 150 ft.

Two Forty Oil Co.'s No. 2 Beck, SE cor. NW SE Sec. 33-15-26.
Coring 2,928 ft.

Nevada County

Carnett et al's No. 1 Floyd Munin, C SW Sec. 16-14-22.
S.D. 50 ft.

Ouachita County

Benedum & Trees' No. 1 H. Brighton, C NE SW Sec. 29-14-19.
Rigging up.

Snow-Black Pet. Co.'s No. 1 Bedford, 650 ft. N and 150 ft. E, SW cor. Sec. 32-11-18.
Drlg. 1,935 ft.

Poinsett County

Rockwell Dev. Co.'s No. 1 W. A. Smith, NE NE Sec. 13-11n-3e.
Drlg. 2,285 ft.

Sevier County

Pendleton & Vaughn's No. 1 Dierke, C NW NE Sec. 14-10-29.
Drlg. 60 ft.

Union County

Arkansas Southern Oil Co.'s No. 1 F. R. Laney, Sec. 30-19-16.
Installing larger rig 175 ft.

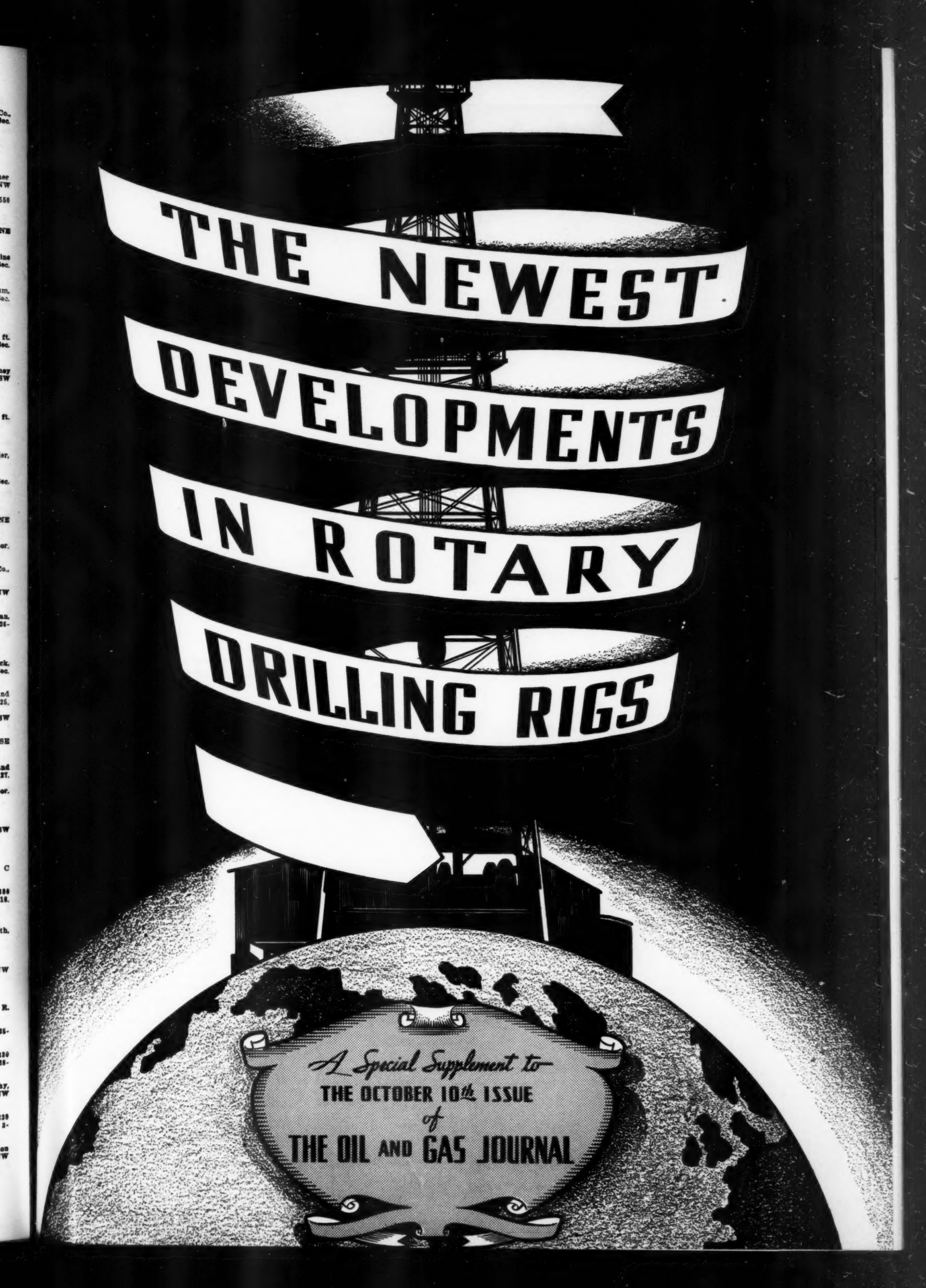
Gardy Drlg. Co.'s No. 1 Craig, Sec. 25-17-15.
S.D. 3,211 ft.

Mrs. R. K. Jones et al's No. 1 Davis, 330 ft. N and W, SE cor. NW NW Sec. 28-16-14.
Arranging to test 3,397 ft.

Lion Oil Ref. Co.'s No. 7 Hardy-Murphy, 510 ft. N, 200 ft. W, SE cor. NE NW Sec. 9-16-15.
W.O.S.R. 2,320 ft.

Marine Oil Co.'s No. 8-E Thompson, 330 ft. N and E, SW cor. SW SE Sec. 3-18-13.
Set 7-in. 3,542 ft.; T.D. 3,580 ft.

Richardson & Proctz et al's No. 1 Galion Lbr. Co., 330 ft. S and E, NW cor. NW SE Sec. 10-16-14.
S.D. 3,500 ft.


THE NEWEST
DEVELOPMENTS
IN ROTARY
DRILLING RIGS
A Special Supplement to
THE OCTOBER 10th ISSUE
of
THE OIL AND GAS JOURNAL

One of the first mechanical rotary drilling rigs, powered with gas engines, used successfully in Oklahoma in 1928

Development of Rotary Drilling Outfits Has Kept Pace With Requirements

The first rotary drilling outfit used in the petroleum industry was built by M. C. and C. E. Baker, water well drilling contractors of South Dakota who brought their outfit to Corsicana, Tex., after 1895 when they were directed to that town by the discovery of oil there.

The American Well & Prospecting Co. undertook to develop the Baker brothers' outfit and several shallow wells were drilled in the Corsicana Field by this method. The first outfits were crude as compared with the more modern rotaries and in 1901 the rotary outfit consisted of a 9x12-inch steam engine weighing about 2,000 pounds and costing about $250. The drawworks weighed about 5,000 pounds and also cost $250 and the slush pump used was an 8x5x10-inch unit weighing 2,000 pounds and costing $235. The traveling block had 16-inch sheaves and weighed only 300 pounds and cost $115. It was with this type rotary that Captain Lucas completed the famous discovery well in Spindletop, Texas.

Since that day the rotary rig has been improved considerably. It has grown in size and the duties that it has been called upon to perform have demanded large capacity prime movers. Prior to the beginning of the past 10 years, steam equipment was the only source of power for rotary drilling except on those locations where high line electrical service was available.

The scarcity of water and in some cases fuel, led to an investigation of other sources of power. It is natural that the oil producer or drilling contractor should think of a prime mover that would use a readily available fuel such as could be obtained on the lease or from some plant of the lease owner. The natural result of this search led to an investigation of the possibilities of either gas or oil engines. At the beginning of the period mentioned there were not many high speed, light weight engines available. Certain attempts were made to adopt the slow speed engine to the duty with varying success, but until the advent of the so-called high or moderate speed gas or Diesel engine not much progress was made.

The past two years has seen the installation of a large number and a great variety of internal combustion engine powered rigs either straight mechanical or with some method of electrical transmission of power. This period has also seen changes and improvements in the design and application of steam equipment to rotary drilling.

Basic Designs Considered

In attempting to make an impartial analysis of the trend of the development of the power and transmission mediums of the modern rotary rig, only basic designs have been considered. In doing this it is acknowledged that there are many possible modifications or combinations of the basic layouts that will be shown in diagram that will be described in the following pages. Perhaps some particular idea or scheme has been left out. If it has it is only because sufficient data were or are not available. In order to properly identify these modern types of rigs we will classify them according to their type as follows:

The word "mechanical" as used throughout the description or in the preceding matter designates gas or oil engine driven rigs using chain, V-belt or gears as a power transmitting medium. Electrical rig will mean either a direct or alternating current drilling rig with either Diesel or gas engine driven generators. It should be noted that throughout most of the layouts that follow where a V-belt drive is shown a chain drive could probably be substituted and vice versa.

There seems to be a concensus of opinion that certain definite requirements are necessary in the design of a mechanical rig. One of the most important is an elastic or flexible connection between the prime mover and the shock loads imposed by the drilling rig. Another is the provision of sufficient speed changes to allow the prime mover to operate at its best performance point and still permit the driller to obtain the speeds necessary for good drilling practice. Mechanical drilling rigs can be listed under the following main divisions:

1. Portable.—That is rigs that are solely contained in one or more trucks and which are not dismantled in any part for moving. These rigs in some cases use the truck engine as part of the power required.

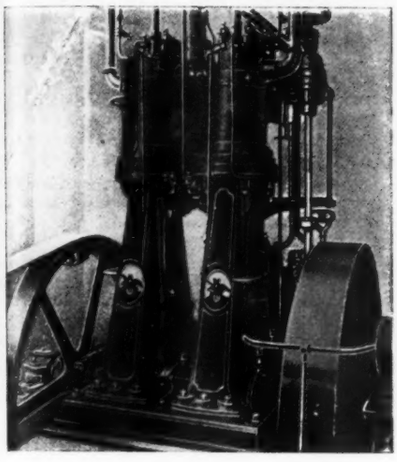
2. Semiportable.—This will cover rigs wherein the component parts are readily portable but do not remain in whole or in part on

the truck when drilling. This classification would perhaps stand a subdivision in the respect that in some cases all the component parts have been assembled on common skids and the number of individual pieces to be moved have been reduced to a minimum.

In both the above divisions certain distinct classifications also apply.

1. V-belt rigs.
2. V-belt and chain combination rigs.
3. Chain rigs.
4. Chain and gear box rigs.
5. V-belt and gear box rigs.

In the following pages are given numerous simple diagrams illustrating the different basic layouts. No attempt has been made to designate the location of bearings, or the type or style of the different parts. The diagrams with their description are solely to show the diversity of designs already in use. No mention or reference will be made to the advantages or disadvantages



The first Diesel engine

in the layouts shown. It is well to say at this point before a description of the schemes is attempted that in most cases most of the layouts shown are in actual service and apparently are successful as is evidenced by the fact that they are still drilling oil wells.

What is perhaps the first successful heavy duty mechanical rig installed in the Mid-Continent area is shown in Sketch No. 1. It will be noted that it follows the conventional methods known at that time; that is, one prime mover for each power requirement without any method of compounding engines. In the case of the engine connected to drawworks giving trouble, it was and is necessary to move a pump engine to the hoisting position.

Menace of Stuck Pipe

The ever present menace of stuck pipe or pipe left on bottom due to engine trouble led to some method where more than one prime mover could be used for hoisting either in compound or singly and where either engine could be readily switched to the hoisting position. This is shown in Sketch No. 2. It will be noted that provision is made for driving of one or two slush pumps by means of a stub shaft so arranged that either pump can be operated singly, or the two pumps together if necessary. It might be said that Sketch No. 2 is fundamental and an examination of the sketches of mechanical rigs will show that the scheme is incorporated in whole or in part in a number of the layouts shown, whether driven by V-belts or by chains.

It will be noted that Sketch No. 3 is a modification of Sketch No. 2 and is shown to illustrate one of the many combinations or modifications possible. The difference between this and Sketch No. 2 is the method of driving slush pumps.

In the three sketches described before and in most of the sketches of mechanical to follow, it will be noted that the reverse clutch is driven from a shaft that revolves in one direction continuously. This means that the reversing mechanism must be built in the clutch in the form of planetary gears or some other form of reverse mechanism. An examination of Sketch No. 4 will show that the two engine shafts run in opposite directions and that each shaft has a chain drive to the clutch mechanism, thereby eliminating the necessity of reverse mechanism in the clutch.

A particular point of interest in this layout is the method of placing two engine shafts end to end and connecting them together through a one to one (1:1) ratio gear unit. This allows the power of the engines to be compounded for heavy duty hoisting and allows either engine to carry the total load under emergency conditions.

Sketch No. 5.—This layout is a modification of the one described above. Right and left hand engines are used connected together through a friction clutch. Again in this arrangement the power of both engines can be compounded for hoisting. In as much as the power take-off shaft runs continuously in one direction, the conventional type reverse clutch is necessary.

Sketch No. 6.—This layout is what might be called a lineshaft hookup and a careful study of the diagram will show that it is a modification of the fundamental hookup shown in Sketch No. 2. In this case the individual stub shaft per engine which allows for compounding of engines has been eliminated. The compounding feature and the engine transfer feature have been incorporated in the long shaft assembly as well as the drives for the pumps. It will be noticed that either engine can be used for operation of total equipment. Either or both pumps can be operated and that the reverse is built in on the main skid assembly.

Multi-Speed Gear Transmission

Sketch No. 7.—This particular layout is again a modification of Sketch No. 2. It combines the use of a multi-speed gear transmission with a reverse clutch incorporated in the same mounting. A point of interest is the method of driving rotary table from the gear box instead of the conventional drive from drawworks lineshaft. Here again the power of the engines can be compounded for heavy duty work, and in emergency conditions either engine can be used for running the rig. Either chain or V-belt could be used as a power transmitting medium.

Sketch No. 8.—In the preliminary development of mechanical rigs as mentioned heretofore, there were not many large high speed gas engines available. The sketch as numbered above shows a hookup of four engines of a size that are readily obtained on the open market and of a rating that is popular in the industrial field.

It will be noticed that two engines are used for the drawworks duty and two for the pump duty. In each case both engines can be compounded or used singly. The reverse mechanism together with speed changes are built in a common case and direct connected to the engines.

Sketch No. 9.—In this case we go from the high speed or moderately speed engine to the comparatively low speed class. An examination of Sketch No. 1 will show that this is a modification of the first sketch; that is, one engine is used to drive the drawworks while a second engine is used to drive the pump. No arrangement is made for compounding the power of the two engines for heavy duty work. It is also to be noted that both the reversing and forward running clutches are mounted on an additional countershaft built into an otherwise standard type drawworks.

Sketch No. 10.—An examination of this sketch will show that it is a modification of Sketches No. 2 and No. 7, the main difference being in the arrangement for obtaining a number of different speeds. In this case all speed changes are obtained by multiplicity of chain drive ratios, overrunning sprocket, and jaw clutches. With a four-speed drawworks and with a double sprocket on the jackshaft it would be possible to obtain 24 distinct speeds on the drum shaft. This also embodies the feature of compounding the power of the engines or using each engine singly to carry on the drilling operation.

Sketch No. 11.—This hookup can be definitely designated as a portable rig. It uses the truck engine as part of the power plant and is arranged so that both the industrial engine and the truck engine can be compounded for hoisting.

The absence of jaw clutches is noticeable—all cutoff or clutch requirements being taken care of with friction clutches.

Mechanical Summary

In all the above hookups, with perhaps the exception of the last, there will be noticed a decided similarity. No mention has been made of sizes or speed of prime movers, nor of the duty for which the layout was designed. It should be obvious to even the layman that most of the hookups shown could be built in different sizes and for a wide range of duty. It should also be apparent that many modifications are possible, some of which have not been noted and that there is an ever present possibility of new development and perhaps a radical departure from present practice.

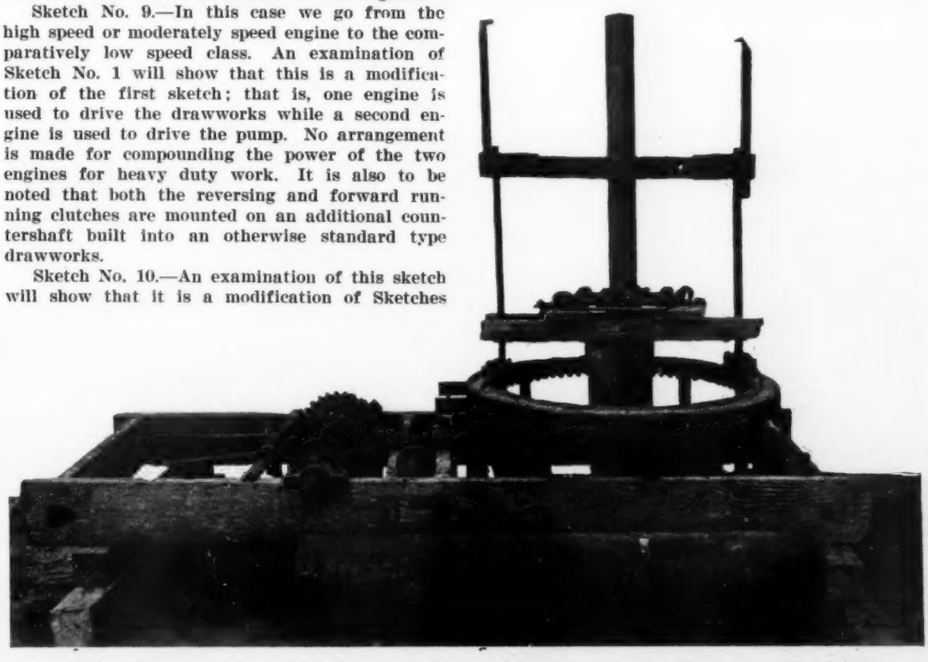
As an indication of the probabilities, it has been proposed to use an impulse waterwheel as the power medium for rotating and hoisting, the water for this wheel being obtained from oil or gas engine driven slush pumps. This waterwheel would be set in the same relative position as the present drilling engine or reverse clutch and would be reversible by throttle control from the driller's position.

It has also been proposed to use the Helie Shaw gear principle as a variable speed method of transmission of power. This scheme would entail one or more oil gear power units direct connected or belted to oil or gas engines together with the companion oil gear motor connected to the slush pumps and drawworks.

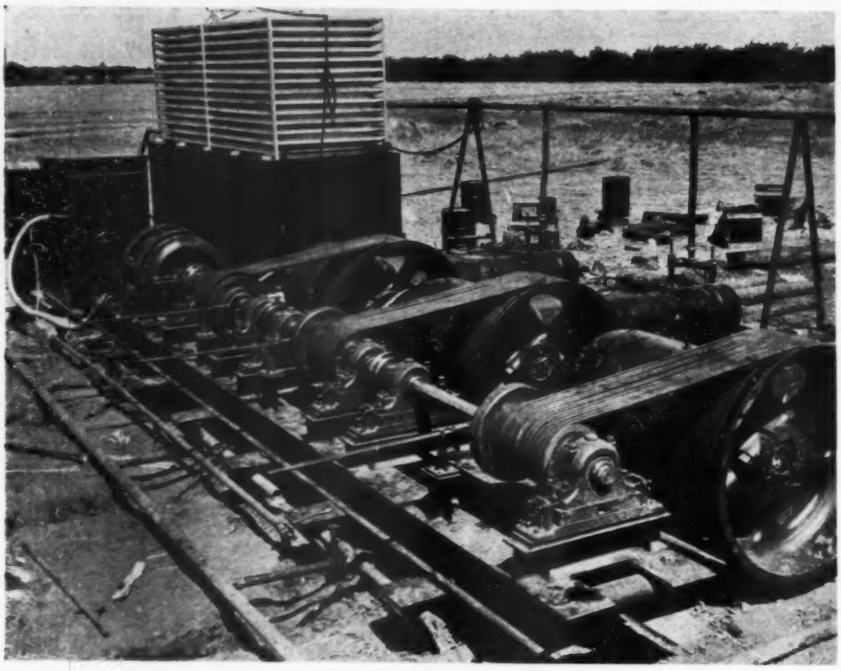
What the future holds nobody knows, but if the past five years can be taken as a criterion, the next five years will show a decided advance in the development of both mechanical and electrical rigs which will be described in the following paragraphs.

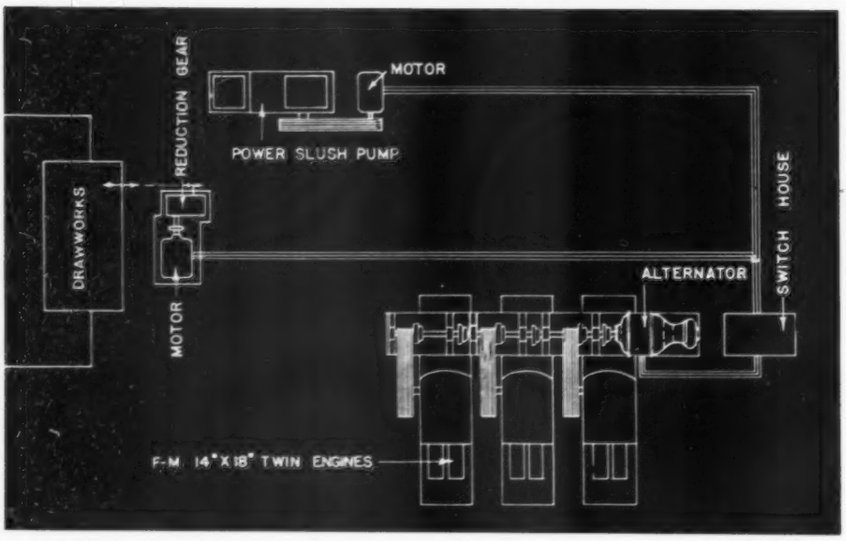
In addition to the mechanical rigs there has been considerable development in electric rigs in

(Continued on Page 97-A)



The first rotary used in the oil fields, placed in service at Corsicana, Texas





CONTINENTAL FAIRBANKS-MORSE GENERAL ELECTRIC

Multiple-Twin Engine A.C. Electric Generating Set.

Frime Mover .....3—FAIRBANKS-MORSE CONTINENTAL Model 47, 14x18 Twin Cylinder Oil Engines (Convertible to Gas).

Oil Rating—150 HP Continuous at 300 RPM
220 HP Peak Hoisting at 300 RPM

Gas Rating—170 HP Continuous at 300 RPM
250 HP Peak Hoisting at 300 RPM

WITH:

60" Pitch Diameter 12 "D" Grooved Special Electric Sheave Flywheels with turning bars.

Governors .....Special Electric Mechanical Paralleling Governors

Fuel Filters .....Dual Purolator mounted and piped.

Air Filters .....American No. 2-SCF Two Unit Air Filters with manifolding to engines, mounted and supported in engine bases.

Circulating Pumps .....1½" Fig. 5510 Centrifugal.

Alternator .....1—General Electric 375 KVA, 300 KW at .8 P. F. Type ATI, Frame No. 7567, 480 Volt, 3 Phase, 60 Cycle, 1200 RPM.

Exciter .....1—General Electric 5 KW, Type EF, Form EB, Frame 7, 5, 125 Volt—1200 RPM Direct Connected.

Clutch Sheaves .....3—Dodge Diamond Roller Bearing 12 "D" Grooved Friction Disc Clutch Sheaves with Shifter Levers.

Bearings .....7—Dodge Timken Roller Bearing Line Shaft Bearings with Wedge Adjustable Sole Plates.

Couplings .....3—Falk Type F Flexible Couplings.

Belts .....3—Sets (12 each) 270" D-Section V-Belts.

Switchboard .....1—G. E. Outdoor Generator Control Unit.

Reduction Gear .....1—Emsco Type G Rotary Drilling Reduction Gear with Falk Flexible Couplings direct connected to—

Draw Works Motor .....1—General Electric 200 HP 720 RPM Slip Ring Induction Motor with Enclosed Collector Rings.

(This generating set adaptable for conversion of A. C. Electric Rigs to engine powered rigs).

Rotary Outfits Kept Pace With Requirements

(Continued from Page 3-A)

the past few years. These can be classified into two general types, namely:

1. Alternating current rigs.
2. Direct current rigs.

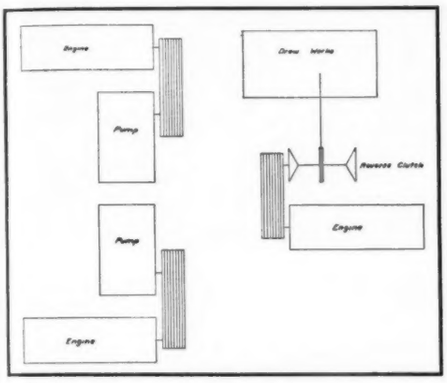
The first type can again be divided into several subdivisions as follows:

(a) High line rigs.
(b) Engine driven generator unit rigs.

The second type can also be divided into two distinct subdivisions.

(a) Series systems.
(b) Parallel systems.

It is the intention to describe in simple language and with one-line diagrams the basic hookups of all the different rigs that have been built to date.



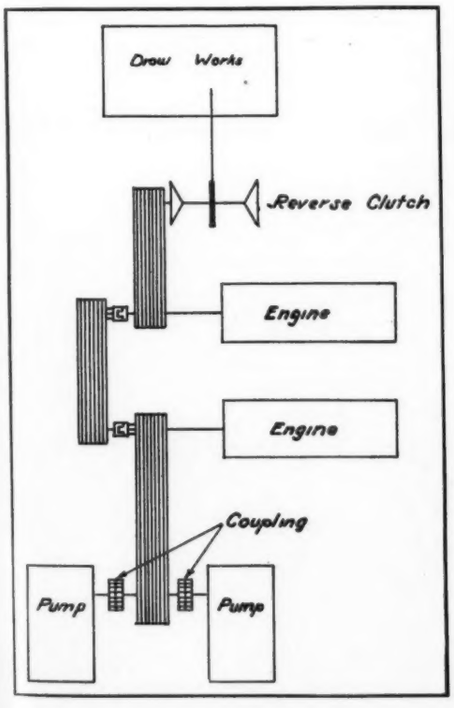
Sketch No. 1

Alternating Current Rigs

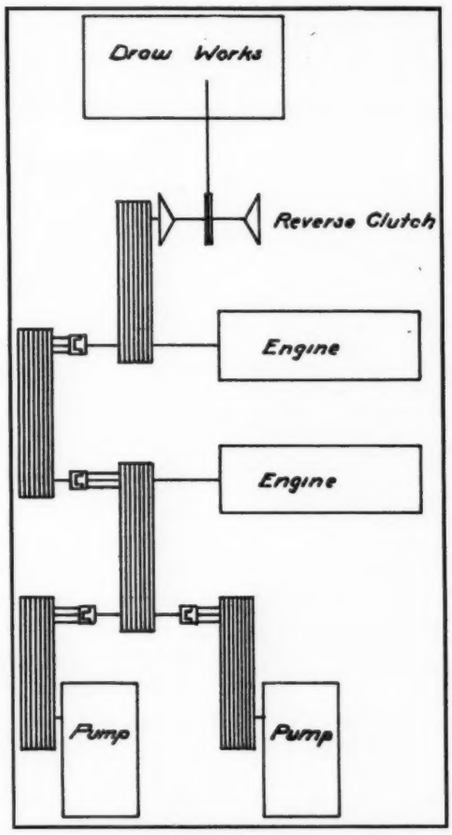
Until last year all alternating current rotary drilling motors had depended on high line or isolated plant service for their source of supply. Dozens of rigs of this type have been in service in the Mid-Continent and Gulf Coast areas, and many hundreds of holes have been drilled with alternating current motors. Like the mechanical rigs the sizes ran the gamut from small rigs to individual motors rated 250 horsepower normal and with 300 per cent pull out torque.

Where high line service was available this type of rig was easily installed—was successful and the cost of operation matched up fairly well with other types of rigs of comparable size taking into consideration first cost.

The advent of the internal combustion engine driven rig led owners of the alternating current rigs to look around for some method of producing their own power where high line power was not available. From this investigation has come several different hookups arranged to operate alternating current generators from engines. Three representative hookups are shown in Sketch No. 12 which shows a direct connected hookup, in Sketch No. 13 which shows a two engine belted hookup, and in Sketch No. 14 which shows a three engine hookup.



Sketch No. 2



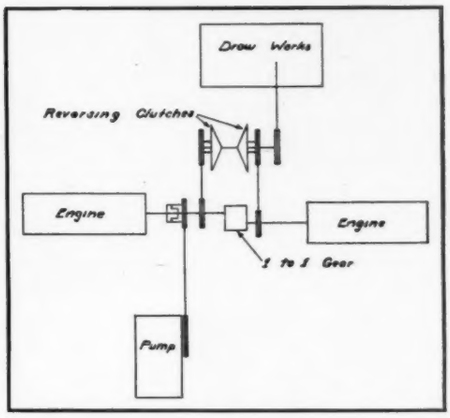
Sketch No. 3

It should be noted that in all alternating current hookups the generator is a common source of power and that speed regulation and control of motors is accomplished by means of separate individual motor controls.

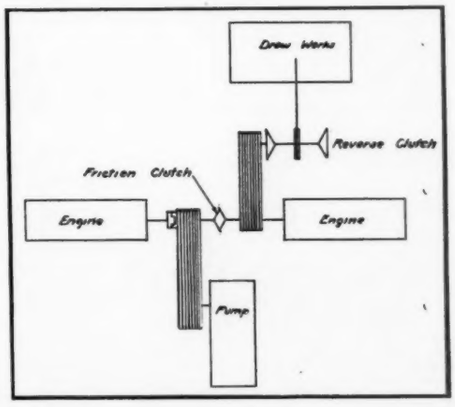
Speed variation of alternating current drilling motors is obtained by the insertion of resistance (grids) in the rotor circuit. Losses, therefore, occur in almost direct proportion to the speed reduction necessary. It is also impractical to arrange the design of a-c equipments to prevent overloading or stalling of the prime mover. These features together with the unfavorable torque characteristics of the induction motor were partly responsible for the development of the direct current equipments now in service.

Direct Current Rigs

To date there have been built some 20 direct current drilling equipments of different capacities and with various electrical hookups. It is of interest to note that all of them have been designed around what is commonly known as the "Ward Leonard" system of control, or expressing it another way, "variable voltage system." To describe this system in simple language is to say that it is a method by which the speed of a direct current motor is varied by varying the voltage of the generator to which it is connected. This characteristic makes it necessary to have one generator per motor on a rotary drilling rig in as much as the speed requirements are different for the two operations; namely, rotation and slush pump. In order to provide a wide range of speed variation it is necessary to have a separate source of current for excitation of the generator fields. This source is known as the exciter.



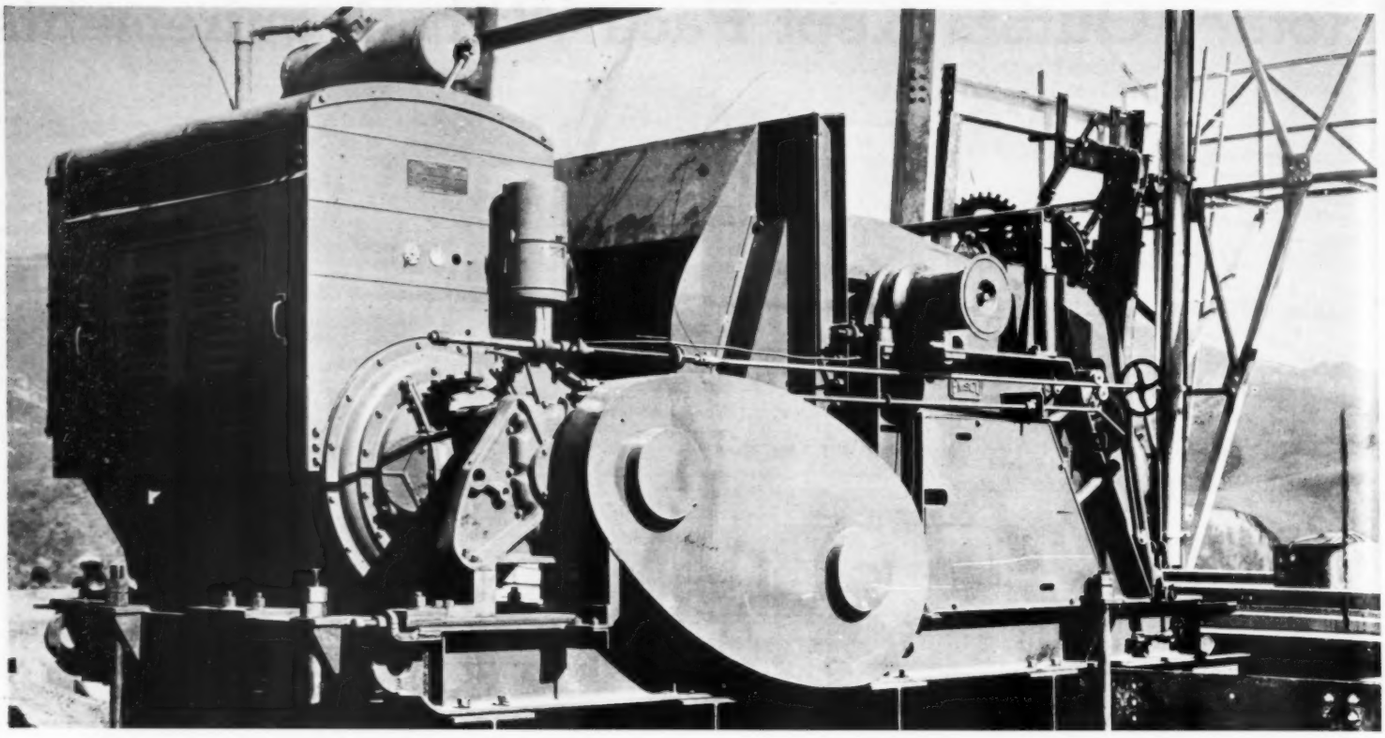
Sketch No. 4

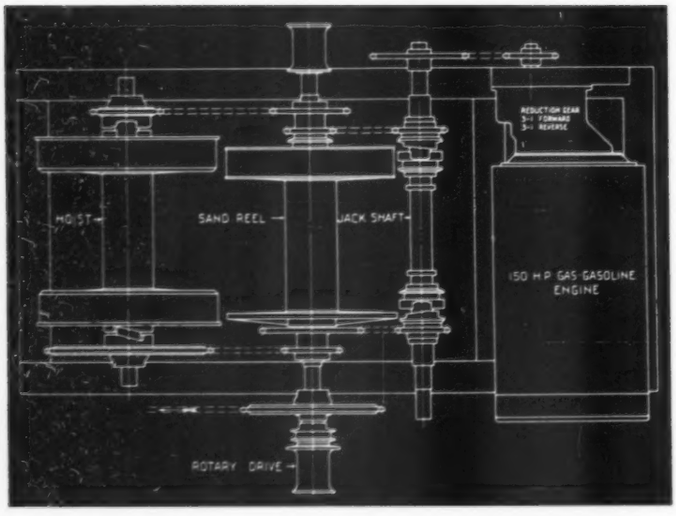


Sketch No. 5

In most of the direct current drilling rigs in service today the exciter in addition to supplying excitation for the generator fields is used as a source of current for lighting, running pumps, and other auxiliaries around the rig. In some cases the exciter has been used as a source of power for starting the prime movers using the

(Continued on Page 113-A)



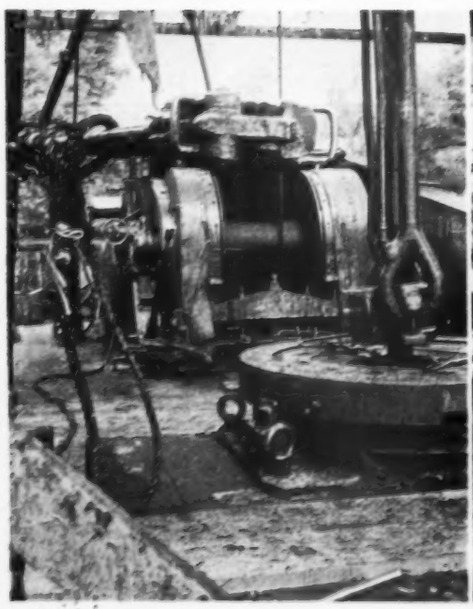


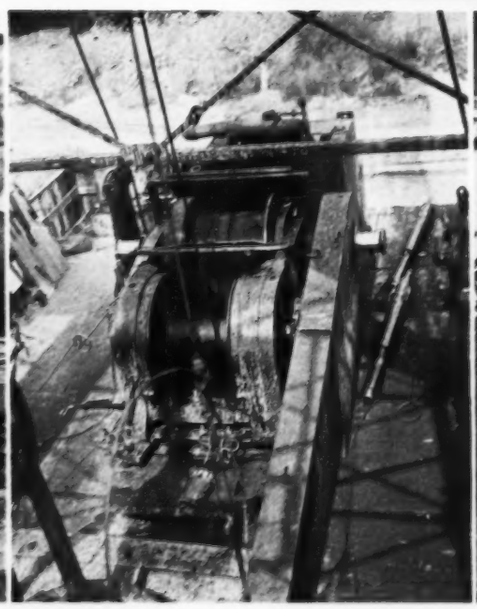
EMSCO

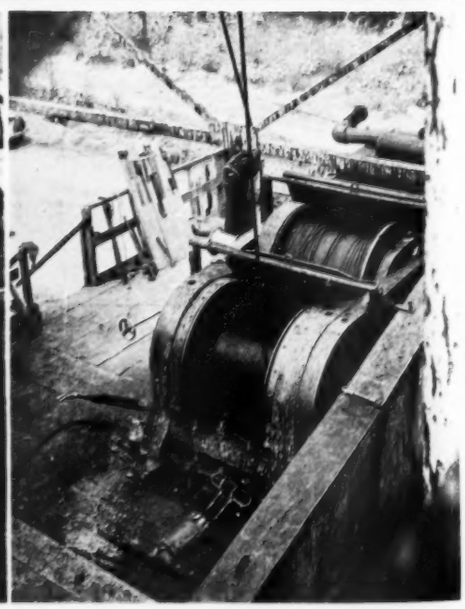
PORTABLE ROTARY DRILLING RIG

Equipment and Specifications

Prime Mover	**150 H.P. Waukesha Type WOKUG gas engine.**
Engine Clutch	**Fawick.**
Exhaust	**Barton Brown water cooled.**
Drum Shaft Clutches	**Emsco multiple jaw.**
Chain	**Baldwin 2½″ pitch roller chain.**
Transmission	**Cotta.**
Air Filter	**Vortox.**
Bearings	**S. K. F. self-aligning roller bearings on drum shaft, sand reel shaft and countershaft.**



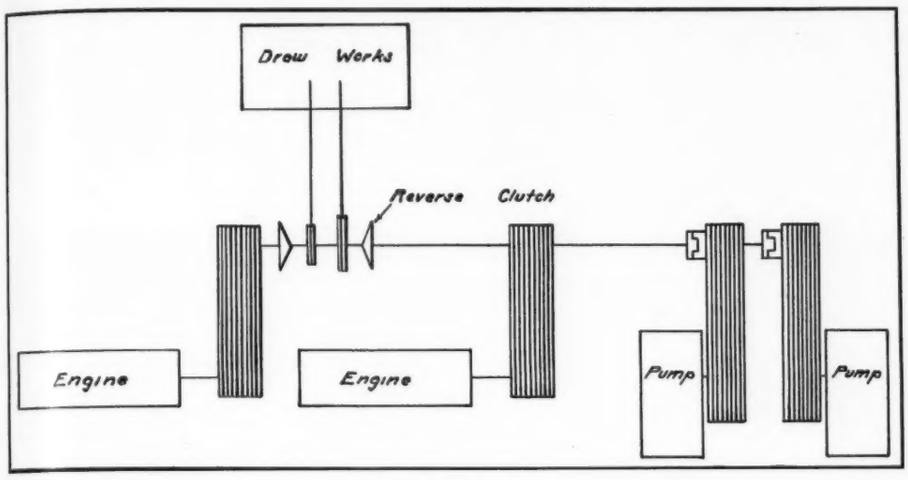




(Continued from Page 97-A)

main generators as motors during the starting period.

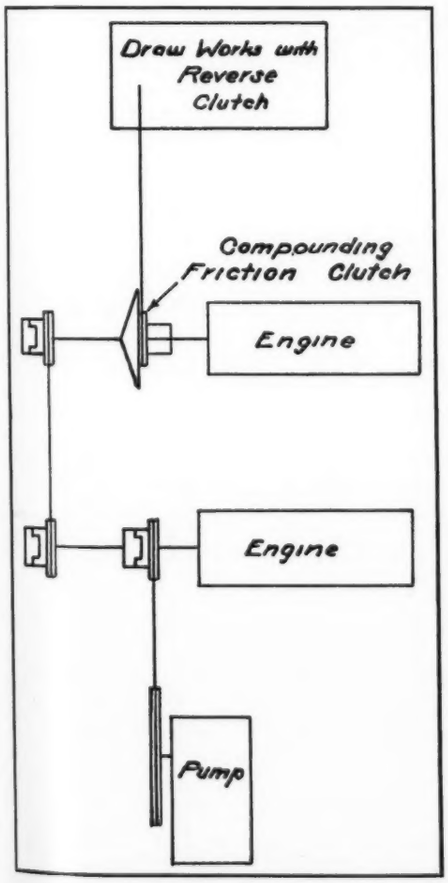
A number of different methods of arranging the equipment have been installed and are in service. As mentioned before the main difference is in the method of electrically connecting the machines together, although there is also a noticeable variation in the mechanical arrangements. In all the present arrangements one basic idea is in general use; that is, two generators are installed, one being used for operating the slush pump and the other for operating the rotary table, and the two in combination for hoisting. The combining the two generators as a source of power for hoisting is accomplished by either the series or parallel method.



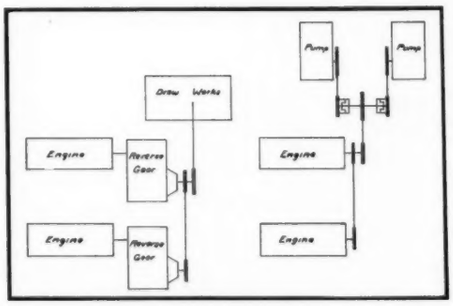
Sketch No. 6

In the series system two generators of identically the same rating are used. When the generators are in service the total voltage is twice that of the individual generators, while combined current output never exceeds the rating of a single generator. In the parallel system two generators are used which can be of different ratings. When in parallel the voltage system remains the same as the rated voltage of the individual machines, while the current is increased in proportion to the rating of the machines put in parallel.

In the definition of the Ward Leonard system is was said that the speed of a direct current motor was varied by varying the voltage of the circuit to which it was connected. In other words, the speed of a direct current motor varies in almost direct proportion to the voltage applied to the motor terminals while the torque or rotative effort of the motor is in almost direct proportion to the current (amperes) supplied to it. These features have a decided bearing on the performance and rating of the direct current apparatus built for rotary drilling rigs.



Sketch No. 7



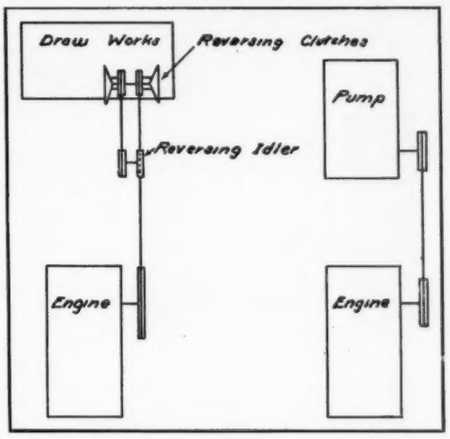
Sketch No. 8

The marked difference between the two systems is in the performance of the drawworks motor. With the series system this motor receives half of its rated voltage when one generator is used as the source of supply and therefore runs at half speed. When the second generator is connected in series the motor runs at full speed. The torque remains the same irrespective of whether one or two generators are used.

With the parallel system the drawworks motor is capable of operating at its rated speed whether one or two generators are used. In this case the torque depends on the ampere capacity of the generators being used as a source of supply for the motor.

The following schematic diagrams illustrate the possible electrical hookups of the equipment now in service:

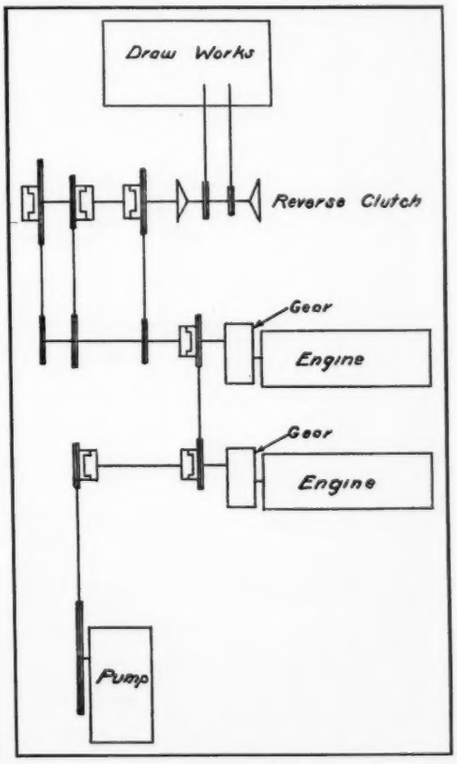
Diagram A—Series System: This shows the possible combinations of a two-engine scheme with two generators direct connected to each engine.



Sketch No. 9

Diagram B—Series System: In this diagram are shown the connections of a two-generator series hookup. This can be operated from one or more engines either belted or direct connected.

Diagram C—Parallel System: This diagram shows the main connections of a two-generator parallel system. They also can be belted or direct connected to one or more engines.



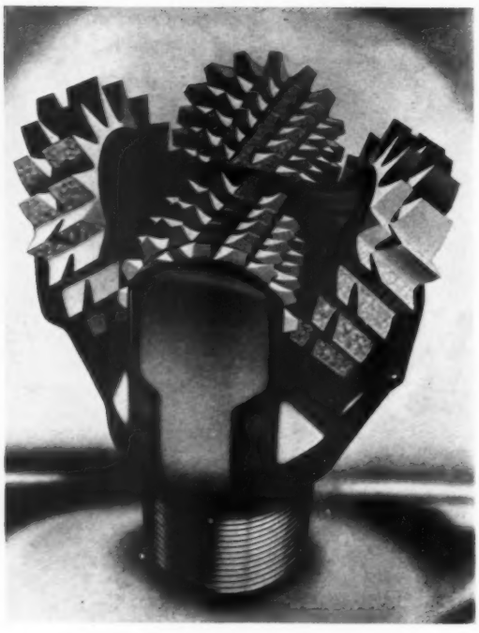
Sketch No. 10

These three diagrams give the elementary electrical connections for the three basic hookups now in use. The method of mechanically connecting

(Continued on Page 120-A)

WHEN YOU USE
REED ROTARY
YOU ARE SURE OF
DEPENDABLE

Type 38
Heavy Duty
Reamer



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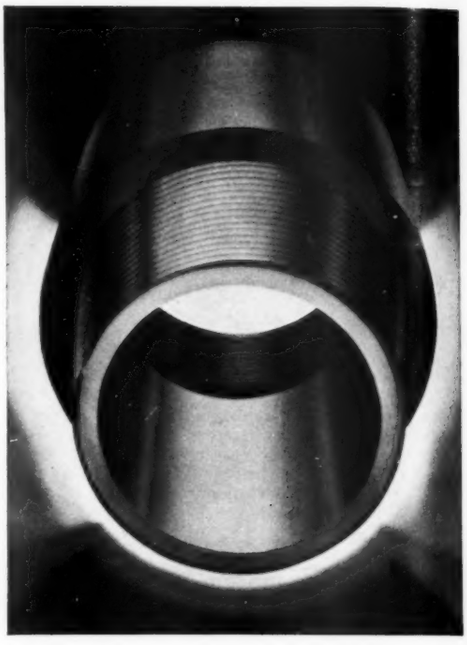

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A-P-I FULL HOLE TOOL JOINTS

Pioneered by Reed and continued leadership assures dependability and longer service.

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You can Depend upon DODGE-TIMKEN Ruggedness

—and There Is a Type for Every Oil Field Service

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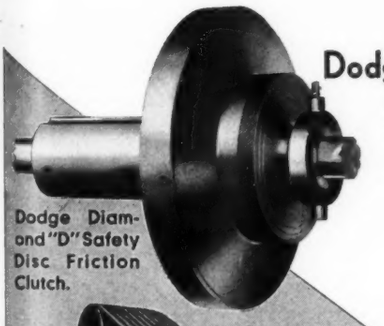
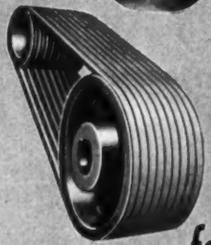
Dodge-Timken Clamp Sleeve Type "C" Pillow Block with Special Dust Seals Expansion and Non-Expansion.

Dodge-Timken Special Duty (Adapter Type) Pillow Block. Expansion and Non-Expansion.



Dodge Diamond "D" Safety Disc Friction Clutch.



Dodge "D-V" Drives.

Dodge-Timken bearings have made good on every claim made for their ruggedness and dependability. In the oil industry, as in every industry, they have stood up under the steady grind of severe, continuous service and have established records for low maintenance cost.

When specifying bearings for oil field equipment, be sure that you obtain the performance insurance that Dodge-Timken bearings will give you. Large stock of a complete range of sizes insures prompt delivery.

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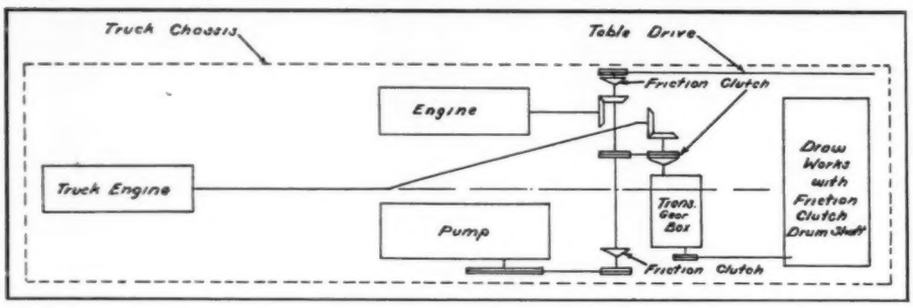
(Continued from Page 113-A)

the generators to their prime movers varies considerably and are shown in Sketches 15 to 18.

Sketch No. 15.—This is a single generator per engine arrangement with both generators and exciters mounted on common base with and direct connected to their respective engines. Both series and parallel systems of electrical connections have been used with this mechanical arrangement. In the series electrical hookup is used. Both generators are the same rating. A point of interest in this scheme is that the coupling between the generators is normally left disconnected. This set can be operated by one engine when the coupling is connected.

Sketch No. 19.—This arrangement is similar to Sketch No. 17 as far as the arrangement and connections of the electrical apparatus are concerned.

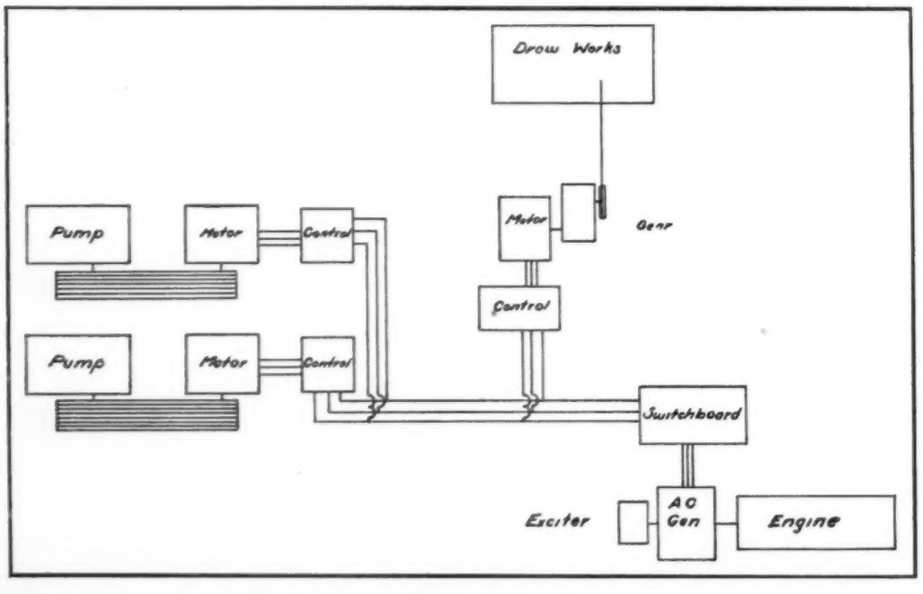


Sketch No. 11

this sketch a third generator unit is shown in dotted lines, providing standby service in case of failure of one unit.

Sketch No. 16.—Here we have two generators per engine, the generators on each engine being of different capacity, the smaller generators being used for rotation and the larger generators for operating slush pumps, either singly or in series. This arrangement requires a separate engine driven exciter. Drilling can be carried on with either one or two engines.

Sketch No. 17.—This is a belted two-engine two-generator parallel system with generators of different ratings; generators being coupled together



Sketch No. 12

and mounted on a common base. Either one or two engines can be used to operate the generator set. A separate engine driven exciter is used for starting and standby service. The belted exciter is used for all ordinary operations.

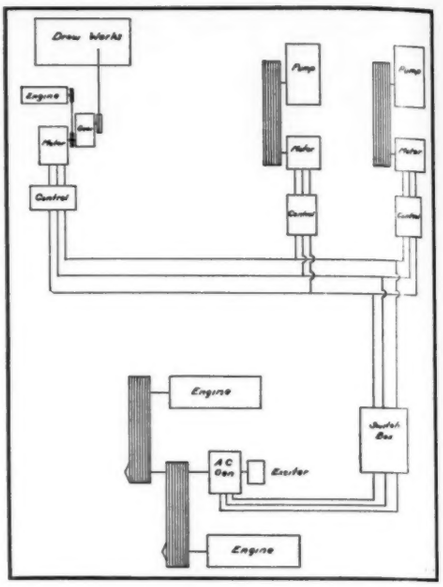
Sketch No. 18.—The mechanical arrangement of this layout is similar to the preceding sketch but The main difference is that the set is driven by an alternating current induction motor which obtains its power from a high line.

Steam Rotary Rigs

The steam rotary rig retains practically the same hookup as in early years, however, the same trend toward modern design has greatly changed and improved the power end on these rigs with respect to operating conditions and economies. Boilers originally used were of the locomotive type as operated on cable tools. Larger rigs made suitable for heavier duties necessitated more capacity and higher pressures in the boiler plants.

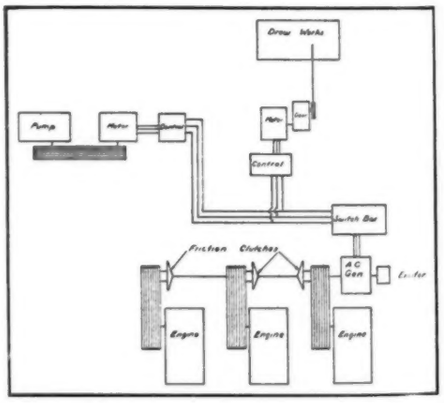
The steam engines for the drawworks used on the first rotary rigs, too, were small, of the single cylinder type and slide valve design. Heavier rigs and a trend for better operating conditions led to the duplex design and vastly improved valve gear mechanism. Natural economic conditions as well as the desire to obtain better operating characteristics has led to a general improvement in the design and layouts of most present day steam rigs.

A modern steam rig now includes a feedwater heater, enabling the water to be fed to the



Sketch No. 13

boilers at a temperature of about 205 to 220° F., naturally increasing the fuel economy of the boilers and increasing the boiler capacity. In many instances these feedwater heaters are furnished with steam exhausted from the feedwater pump or the exhaust steam from the slush pumps. The use of feedwater preheaters considerably extends the life of the boilers as well as lowering maintenance costs. It will also be found that most present day designs of boilers, be they of the horizontal-return fire-tube type or the locomotive



Sketch No. 14

type, etc., are equipped with some type of superheaters. Such a design increases the boiler efficiency considerably and though still rated 125 horsepower, 350 pounds working pressure, these boilers supply a greater volume of steam reserve for peak load conditions and makes it possible in cases where three or four of the old type boilers were used, two or three are now sufficient.

Recently designed steam rigs, to further increase the operating efficiencies, are making use

(Continued on Page 124-A)

DIAGRAMS OF ELECTRICAL CONNECTIONS FOR ROTARY DRILLING RIGS

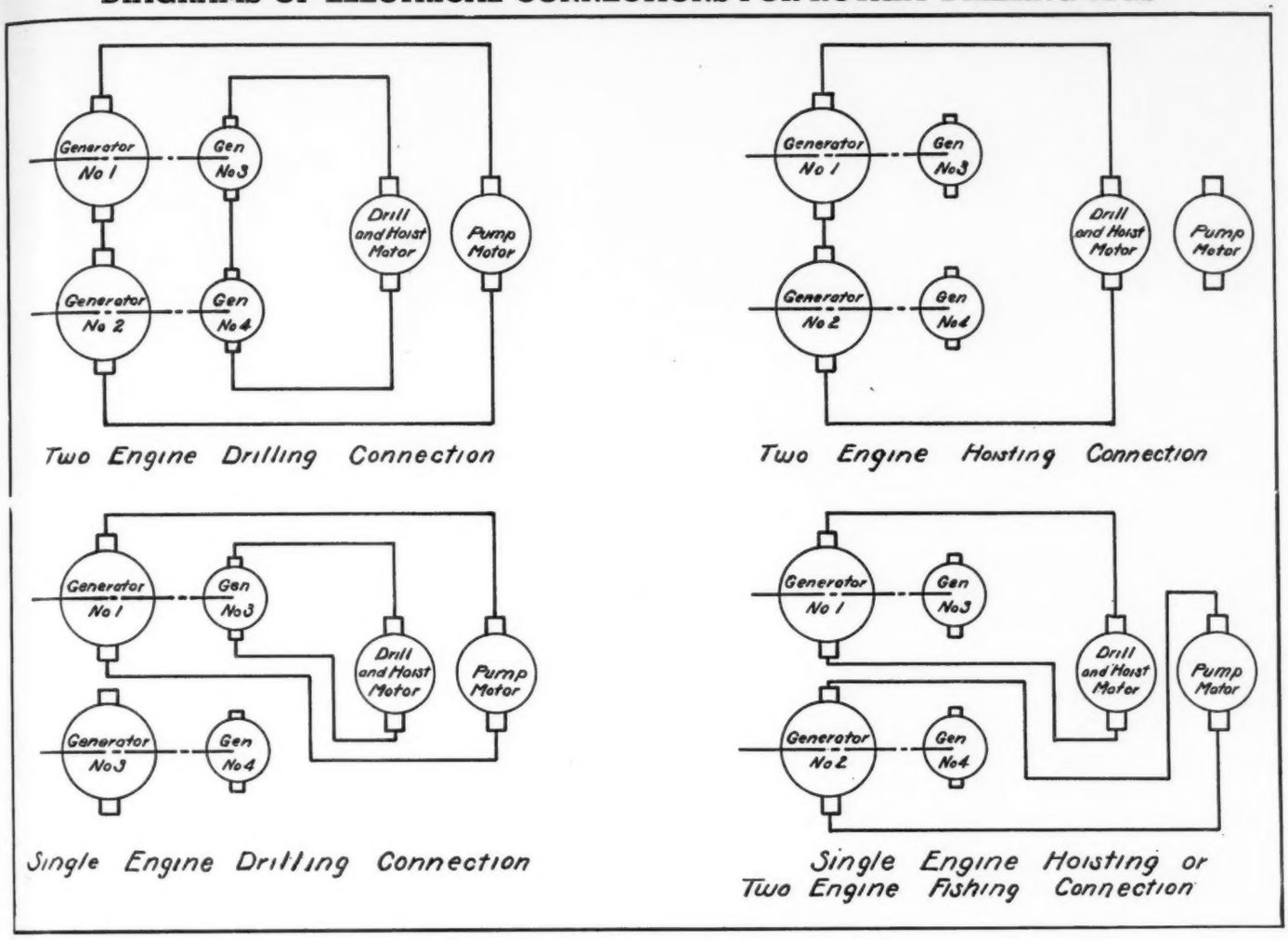


Diagram A.—Two engine four generator series system

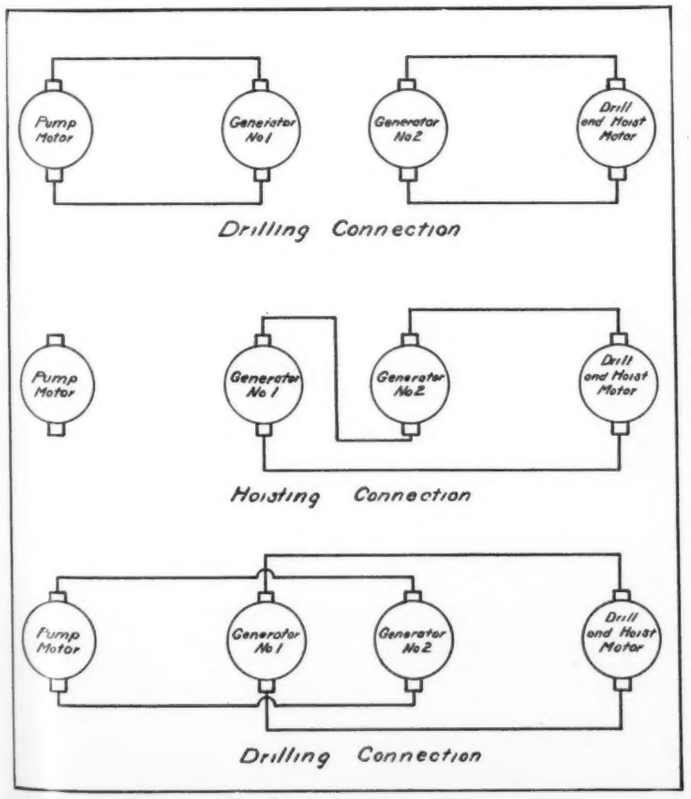


Diagram B.—Two-generator series system

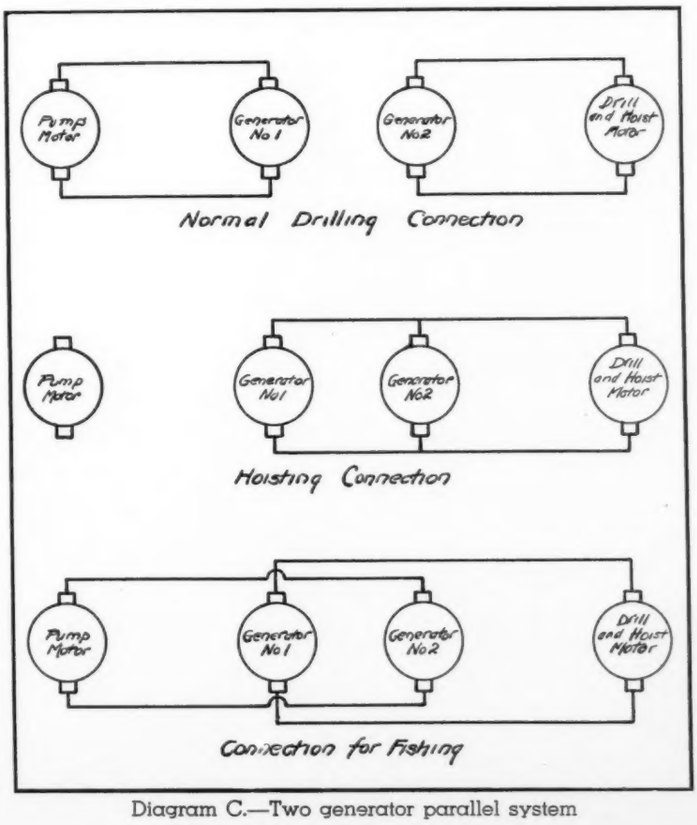
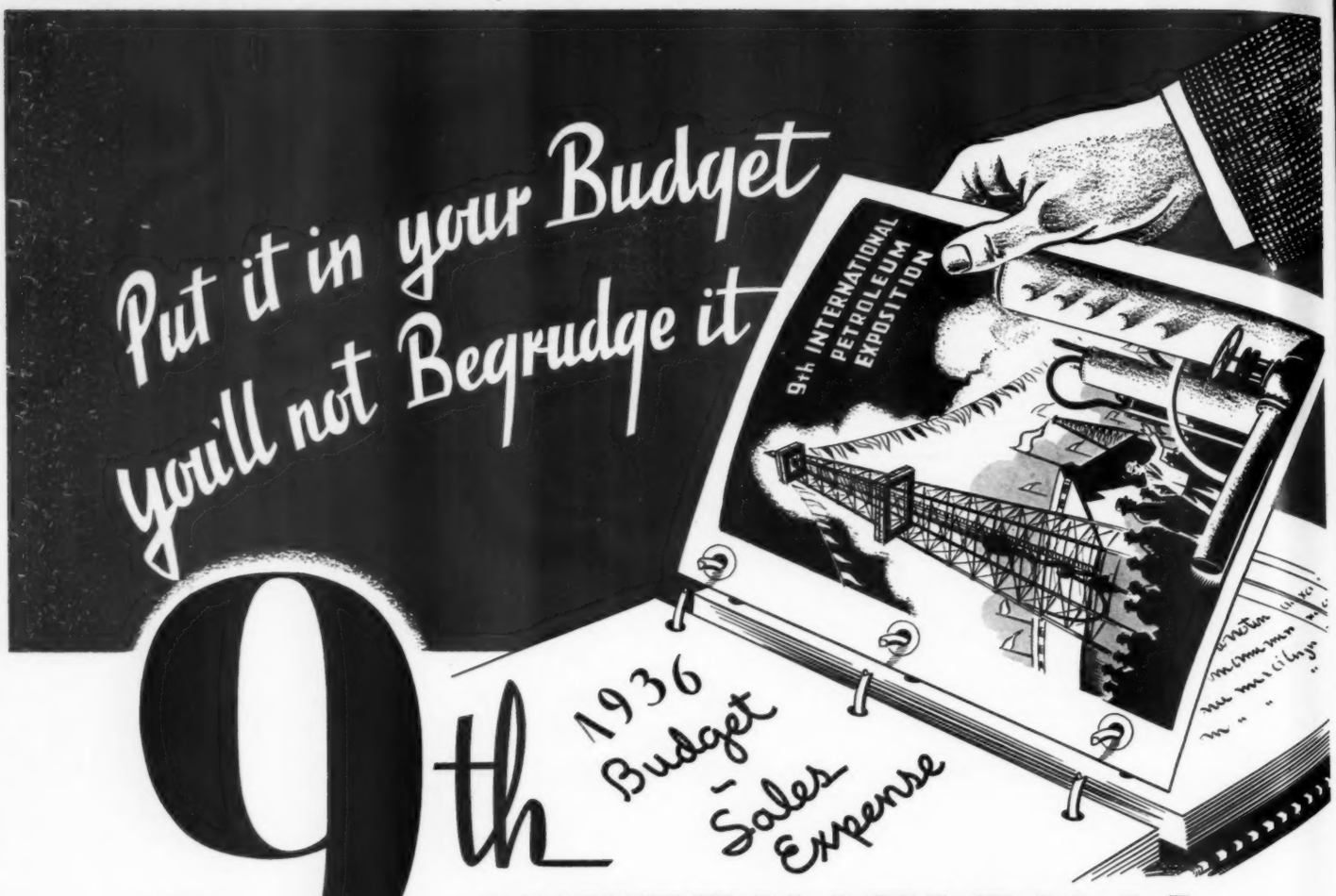


Diagram C.—Two generator parallel system



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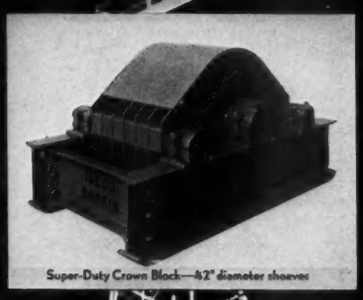

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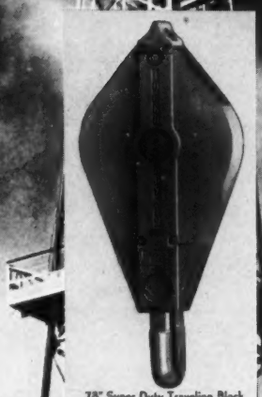

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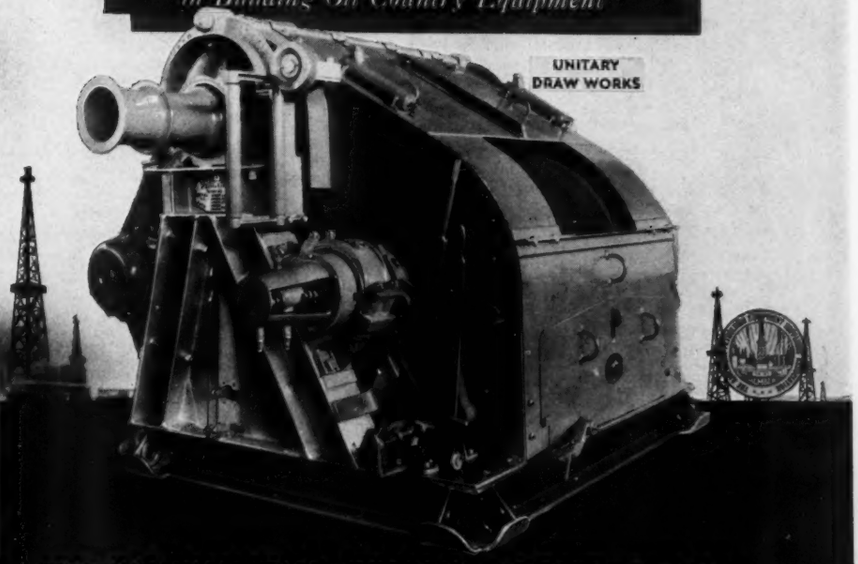

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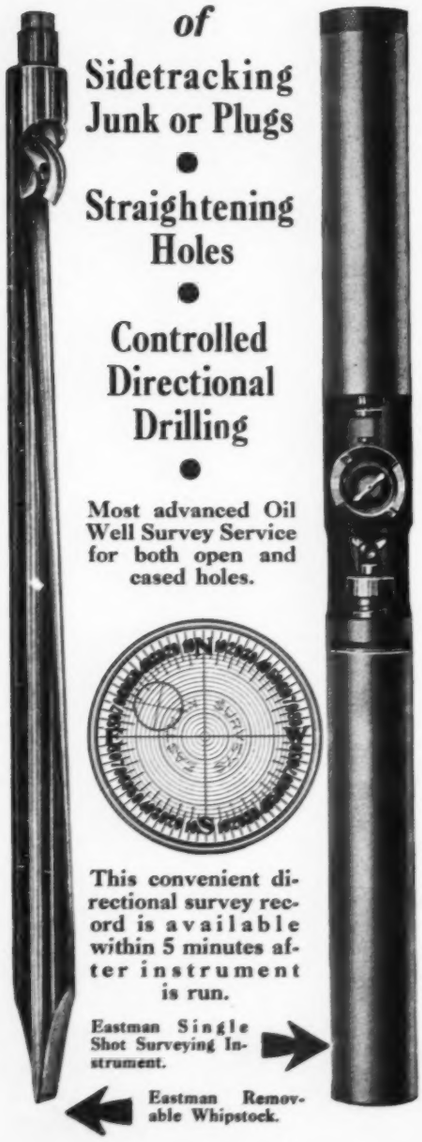

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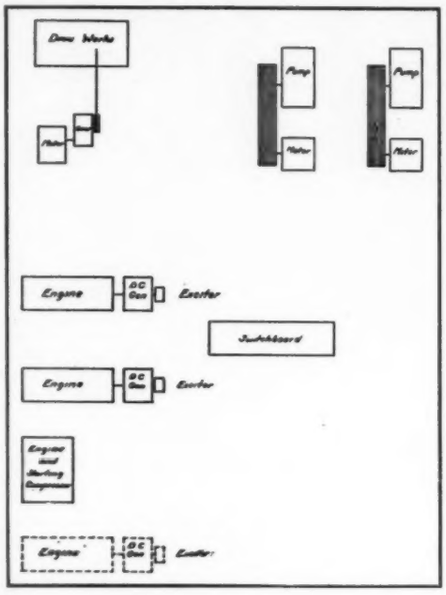
(Continued from Page 120-A)

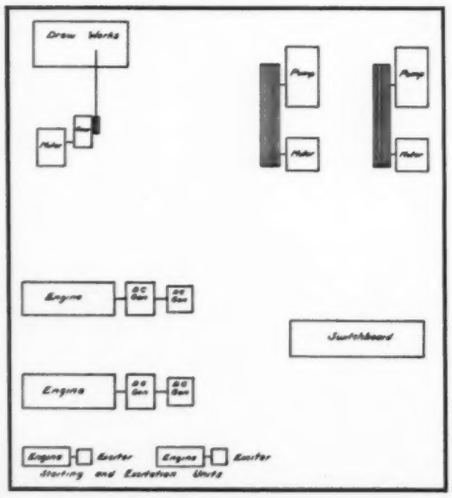
of insulation for piping and also steel jacketed boiler insulation casings.

The present day steam engine for rotary drilling also follows the trend of increased economy. Along this line there has been designed a vertical steam engine which incorporates a hand controlled variable steam cutoff. The drive from this engine on the rig is dual in nature; that is, it drives both the pump and drawworks during the



Sketch No. 15

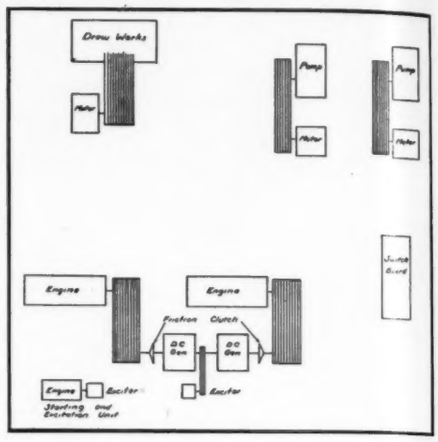
normal drilling operation and only the drawworks on hoisting. Such a layout eliminates the use of one boiler and when the improved type boilers mentioned above are used together with a superheater the operating economy is considerably increased. Two of these engines can be used; one to operate the drawworks and the other for operating the slush pump, naturally increasing the standby service.



Sketch No. 16

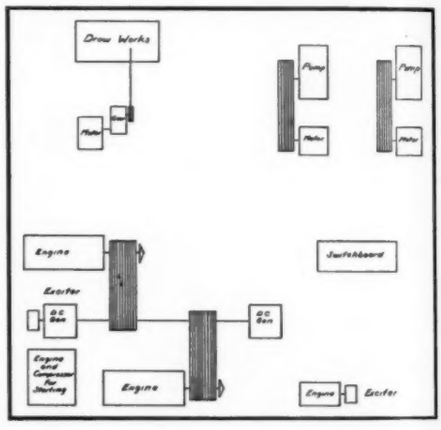
Recent developments in the design of the larger horizontal type twin steam engines also lead to improved operating economy. Their valve gear mechanism is such that it is designed for the heavy loads, with the steam ports, passages and inside-admission type balanced piston valve having been layed out for such duty providing rapid acceleration, high speed and ready power.

Some hookups consist of one of the large horizontal type twin cylinder engines on the drawworks for the heavy duties while a lighter vertical type engine has been used to run the table and the slush pump.

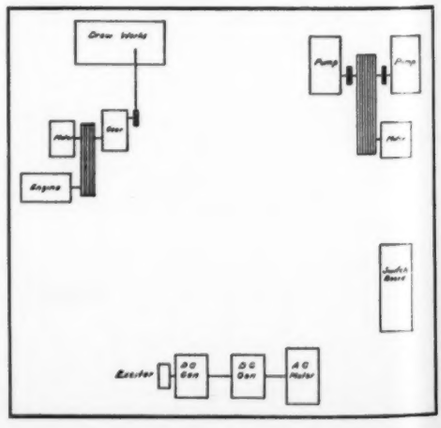


Sketch No. 17

All of these newly improved units have been in actual operation and drilled enough oil wells to demonstrate that considerable progress in steam equipment has been made.



Sketch No. 18



Sketch No. 19

East and East Central Texas

FIVE WILDCAT LOCATIONS IN VAN, RUSK, FANNIN COUNTIES

By L. E. BREDBERG

DALLAS, Tex., Oct. 7.—Five wildcat locations were reported in the East Texas district this week, while six were rubbed from the reports as abandoned. One new test will be drilled in Rusk County and two each in Van Zandt and Fannin Counties. The Rusk County test is being drilled by Edwards and Prio on the W. R. Poston farm in the J. Roth Survey, elevation 429 feet. J. H. Gilliam and others have staked location 3 miles northeast of Wills Point, on the E. S. Martin farm, in the James Hamilton Survey, Van Zandt County. The other test in this county is drilling at 100 feet by Pioneer Exploration Co. on the B. Spruce farm in the J. Denman Survey, 8 miles south of Canton. It is to go to 5,000 feet.

Warren Moore and others are to drill a second test on the Hancock estate lands in the L. M. Blalock Survey, 1 mile east of Trenton in Fannin County. The other test in this county, to go to 7,000 feet, is to be drilled by J. A. Hoover on the McFall farm, in the S. Garrison Survey.

The tests abandoned were in Angelina, Freestone, Hopkins, Limestone and Upshur Counties.

Gulf Production Co. completed No. 1 McCain, Woodbine sand producer, in the Camp Hill Pool, eastern Anderson County, for 14 bbls. per hour through a three-eighths inch choke. It was bottomed at 5,171 feet, showing for a well when the Woodbine was tested from 5,166-71 feet. It is south of production, extending the Woodbine producing area. Elevation is 575 feet. There is no other test drilling in this three producing sand pool, a test abandoned last week on the east edge defining it in that production. It missed the pay in both the sub-Clarksville and Woodbine horizons.

Cayuga Field

The north end of the Cayuga Field, which extends from Anderson into Henderson County, may be defined by Kirby Petroleum Co.'s No. 1 Litchfield, in the I. Clendennen Survey, in Henderson, one-half mile north of the nearest producer, Clark and Cowden's No. 1 Wright. Total depth is 4,121 feet, at which point pipe will probably be set and then perforated in the sand which showed oil from 4,102-13 feet. Water sand was logged at 4,098 feet, but a shale break was reported below. Oil sand was cored from 4,113 feet with another water sand hit from 4,118-21 feet. It may prove a producer from the upper sand, but appears a defining marker on the north, although erratic sand conditions may be responsible, and the field may be extended north.

The Trinity sand test of Tide Water Oil Co. and Texas Seaboard Oil Co., No. 21-A Wills, in the S. Edmondson Survey, Cayuga Field, northwest Anderson County, made a drill stem test and showed salt water at 8,867 feet. At total depth of 9,085 feet a second drill stem test showed nothing. Schlumberger test was run preparatory to plugging back to 8,745 feet, where casing will be perforated at intervals between 4,594 feet and 8,745 feet to test the upper showings. This is the deepest test drilled in the East or East Central Texas districts, and blocks have been taken in the two districts by several companies, especially Tide Water, for other Trinity sand tests.

EAST TEXAS COMPLETIONS MISCELLANEOUS

Anderson County—Camp Hill Pool

Gulf Production Co.'s No. 1 McCain, total depth 5,171 feet, elevation 575 feet, initial production 14 bbls. per hour through three-eighths inch choke.

East Texas Field—Gregg County

Arkansas Fuel Oil Co.'s No. 10 Orms, total depth 3,556 feet, top sand 3,531 feet, initial production 26 bbls. in 15 minutes; No. 11-B Smith, top sand 3,520 feet, total depth 3,534 feet, initial production 20 bbls. in 15 minutes. Burke Royalty Co.'s No. 1 T.&P. Railroad, top sand 3,594 feet, total depth 3,598 feet, initial production 45 bbls. in 30 minutes through three-quarters inch choke; No. 1 T.&P.R.R., top sand 3,573 feet, total depth 3,575 feet, initial production 45 bbls. in 30 minutes through three-quarters inch choke; No. 1 T.&P.R.R., top sand 3,582 feet, total depth 3,585 feet, initial production 45 bbls. in 30 minutes through three-quarters inch choke.

Empire Gas & Fuel Co.'s No. 11 Jeter, top sand 3,596 feet, total depth 3,597 feet, initial production 40 bbls. per hour. Humble Oil & Refining Co.'s No. 21 Lawrence, top sand 3,636 feet, total depth 3,653 feet, initial production 29 bbls. in 20 minutes; No. 21 Mackey, dry and abandoned 3,640 feet. Magnolia Petroleum Co.'s No. 12-B Christian, top sand 3,612 feet, total depth 3,640 feet, initial production 80 bbls. per hour; No. 10 Zeigler, top sand 3,473 feet, total depth 3,494 feet, initial production 108 bbls. per hour. Shell Petroleum Corp.'s No. 18 Slaton, top sand 3,594 feet, total depth 3,633 feet, initial production 30 bbls. in 30 minutes. Smith's No. 10 Bauknight, top sand 3,570 feet, total depth 3,602 feet, initial production 65 bbls. per hour.

Sun Oil Co.'s No. 13 McKinley, top sand 3,625 feet, total depth 3,657 feet, initial production 50 bbls. per hour. Tide Water Oil Co.'s No. 18 Castleberry, top sand 3,590 feet, total depth 3,602 feet, initial production 8 bbls. in 10 minutes. De Mayo's No. 4 Benson, top sand 3,739 feet, total depth 3,740 feet, initial production 60 bbls. in 38 minutes. Kilgore Refining Co.'s No. 14 I.&G.N. Railroad, top sand 3,540 feet, total depth 3,560 feet, initial production 180 bbls. in six hours, swabbing. Lyon and others' No. 7-B Richard, top sand 3,516 feet, total depth 3,545 feet, initial production 40 bbls. per day, swabbing; No. 8 Richard, top sand 3,477 feet, total depth 3,497 feet, initial production 25 bbls. day, swabbing. McVey's No. 2 Richards, top sand 3,486 feet, total depth 3,512 feet, initial production 13 bbls. per hour, pumping.

Rusk County

Humble Oil & Refining Co.'s No. 29-B Sexton, top sand 3,586 feet, total depth 3,675 feet, initial production 30 bbls. per hour. Meco Production Co.'s No. 5 Williamson, top sand 3,708 feet, total depth 3,709 feet, initial production 10 bbls. in 10 minutes. Tide Water Oil Co.'s No. 3 Laird, top sand 3,640 feet, total depth 3,711 feet, initial production 15 bbls. per hour, swabbing. Westheimer & Daube's No. 9 Peterson, top sand 3,653 feet, total depth 3,679 feet, initial production 23 bbls. in 10 minutes. Adams' No. 2 Deason, top sand 3,661 feet, total depth 3,740 feet, initial production 20 bbls. per hour.

Arkansas Fuel Oil Co.'s No. 12 Wheelis, top sand 3,578 feet, total depth 3,703 feet, initial production 17 bbls. in 15 minutes. Bell's No. 1 Wolley, top sand 3,621 feet, total depth 3,654 feet, initial production 10 bbls. per hour, swabbing. Bryant's No. 2 Moore, top sand 3,530 feet, total depth 3,650 feet, initial production 40 bbls. in eight hours, swabbing. Gant-Garvin and Wegner's No. 4 Edwards, top sand 3,568 feet, total depth 3,600 feet, initial production 20 bbls. per hour. Guthrie Oil Co.'s No. 3-A Frederick, top sand 3,507 feet, total depth 3,610 feet, initial production 30 bbls. in two hours, swabbing.

Herring's No. 3 Frederick, top sand 3,479 feet, total depth 3,617 feet, initial production 105 bbls. in 24 hours, swabbing. Humble Oil & Refining Co.'s No. 17 Pierce, top sand 3,724 feet, total depth 3,754 feet, initial production 58 bbls. per hour. Lide & Tayloe's No. 7 Young, top sand 3,661 feet, total depth 3,741 feet, initial production 154 bbls. in four hours. Mabee Consolidated's No. 11 Brett, top sand 3,697 feet, total depth 3,750 feet, initial production 60 bbls. per hour. Marathon Oil Co.'s No. 9 Griffin, top sand 3,571 feet, total depth 3,672 feet, initial production 20 bbls. in three hours, pumping; No. 22 Price, top sand 3,589 feet, total depth 3,652 feet, initial production 24 bbls. per hour.

Milford Oil Co.'s No. 5 Finney, top sand 3,662 feet, total depth 3,720 feet, initial production 10 bbls. per hour. Texas Co.'s No. 15 Wilson, top sand 3,556 feet, total depth 3,660 feet, initial production 60 bbls. per hour. Tide Water Oil Co.'s No. 12 Irion, top sand 3,663 feet, total depth 3,705 feet, initial production 15 bbls. in 15 minutes. Vise's No. 6 Alford, top sand 3,814 feet, total depth 3,815 feet, initial production 50 bbls. per hour.

Smith County

Crone & Gracy's No. 3 Thompson, top sand 3,633 feet, total depth 3,635 feet, initial production 20 bbls. in 25 minutes. Hinton's No. 16 Mayfield, top sand 3,779 feet, total depth 3,780 feet, initial production 90 bbls. per hour. McMurray's No. 23 Turner, top sand 3,835 feet, total depth 3,873 feet, initial production 80 bbls. per hour. Mahan Drilling Co.'s No. 7 Cook, top sand 3,760 feet, total depth 3,763 feet, initial production 21 bbls. in 15 minutes.

Sinclair Prairie Oil Co.'s No. 11 Wiley, top sand 3,808 feet, total depth 3,810 feet, initial production 40 bbls. per hour. Sun Oil Co.'s No. 20-B Pace, top sand 3,773 feet, total depth 3,774 feet, initial production 20 bbls. per hour. Texas-Canadian Oil Co.'s No. 1 Pace, top sand 3,850 feet, total depth 3,853 feet, initial production 60 bbls. per hour. Trentman Oil Co.'s No. 5 Hodges-Graves, top sand 3,763 feet, total depth 3,764 feet, initial production 32 bbls. in 15 minutes.

Upshur County

Miller's No. 1 Miller, top sand 3,800 feet, total depth 3,805 feet, initial production 45 bbls. per hour. Conservative Oil Co.'s No. 9 Mackey, top sand 3,666 feet, total depth 3,669 feet, initial production 15 bbls. in 20 minutes through three-quarters inch choke. Day & Co.'s No. 3 Victory, top sand 3,645 feet, total depth 3,647 feet, initial production 15 bbls. in 20 minutes. Humble Oil & Refining Co.'s No. 33 Smith, top sand 3,660 feet, total depth 3,668 feet, initial production 52 bbls. per hour. Idaho Oil Co.'s No. 3 Landers, top sand 3,660 feet, total depth 3,672 feet, initial production 60 bbls. per hour.

Lester & Duffield's No. 8 Graves, top sand 3,655 feet, total depth 3,666 feet, initial production 75 bbls. per hour. Metaire Oil Co.'s No. 11 Sheppard, top sand 3,680 feet, total depth 3,691 feet, initial production 35 bbls. in 30 minutes. Red Iron Drilling Co.'s No. 2 Phillips, top sand 3,662 feet, total depth 3,665 feet, initial production 30 bbls. per hour. Simms and Stanolind Oil & Gas Co.'s No. 37-B Flewellen, top sand 3,744 feet, total depth 3,750 feet, initial production 10 bbls. in 10 minutes. E. L. Smith's No. 2 Cabinass, top sand 3,629 feet, total depth 3,630 feet, initial production 27 bbls. per hour through three-quarters inch choke. Texas Co.'s No. 6 Culpepper, top sand 3,735 feet, total depth 3,739 feet, initial production 60 bbls. in 24 hours, pumping.

West and North Texas

By L. E. BREDBERG

YOAKUM TEST, IF PRODUCER, MAY OPEN 100 SQUARE MILES

FORT WORTH, Tex., Oct. 7.—C. J. (Red) Davidson and Honolulu Oil Corp.'s No. 1 Bennett, Section 678, John H. Gibson Survey, southeastern Yoakum County, remains shut down at 5,090 feet waiting on 7-inch casing. It will be about a week before the plug is drilled after the pipe is run and set on October 8, and a test made to determine the potentialities. Meantime operators and companies are picking up scattered acreage in the vicinity of Texas Pacific Coal & Oil Co.'s 8,800-acre block around the well.

As the test is standing shut down, with no bailer being run in the hole during the past week, it is not known whether the hole has filled above the 800 feet reported last week when shut down at 5,090 feet. The test is the most important in the district since the Big Lake Field and Yates Field discoveries as, if it proves commercial as looks certain, it will open about 100 square miles to exploratory work. Tests drilled in this area have not penetrated to the lime, but all tests drilled in the future in Yoakum and adjacent counties will be carried sufficiently deep to test the horizon found in the Davidson strike. This deep drilling will call for good equipment.

Crane County Ordovician

The western Crane County Ordovician test of Gulf Production Co. on the Waddell Ranch, in Section 4, Block B-27, P.S.L. Survey, created excitement this week when a drill stem test was made from 5,820 to 6,075 feet, but little was reported except that it showed only drilling mud and water and no oil or gas. It is down 6,100 feet coring in Dolomite. It is just northwest of Cranfill Brothers and Gulf Production Co.'s Tubbs discovery, where two more small wells were completed this week in the Permian lime. Gulf Production Co. completed No. 1 McKnight, Section 9, Block B-21, after plugging back from 3,713 to 3,582 feet to try and shut off water. It made an initial production of 7 bbls. of oil and ½ bbls. of water per hour. It is about 2 miles north of the Tubbs discovery and may be classed as a semi-wildcat although expected to be linked with Tubbs production. The other completion was made by American Liberty Oil Co. of Dallas on the Tubbs Ranch, south of the discovery, in Section 11, Block B-27. The test made only 65 bbls. per day after shooting with 80 quarts from 4,288-4,307 feet. The pay was topped at 4,298 feet and total depth was 4,314 feet. The McKnight test was shot twice before completing.

Upton Ordovician Test

The second test in the Permian Basin to go below 10,000 feet is Humble Oil & Refining Co. and others' No. 1 Pollock, in Section 4, Block M, northeastern Upton County, drilling around 10,135 feet. It has not shown any oil or gas. Being located just northeast of a line between the Big Lake Ordovician producers southeast in Reagan County and the 12,786 foot test drilled by Gulf Production Co. to the west on the McElroy ranch on the west edge of Upton County, places the Pollock test in a most interesting location.

Schleicher Deep Gas

John M. Cooper and others' No. 1 Bert Page, Ordovician test in Section 40, Block L, G. H. & S. A. Survey, Schleicher County, near Eldorado, may be retreated with acid after showing an estimated 6,000,000 feet of gas last week following unloading of the first acid load given it. Total depth is 6,257 feet, but it was plugged back to 5,555 feet where it previously showed oil and gas. This is the best result obtained in any deep test yet drilled in the county, and is the first test to get acid treatment.

Texas Pacific Coal & Oil Co., holder of a part of 8,800-acre block around Davidson and others' No. 1 Bennett, potential discovery in Yoakum County, is leasing in Cochran County, taking acreage in Labor 23, League 124, Childress County School Lands, and Labors 15 and 16 in League 125, Coke County School lands. Cochran joins Yoakum County to the north and several good showings of oil have been logged in previous tests in Cochran, one filling 600 feet with oil but not proving a producer. If acid had been used on the lime the test might have proved commercial. It was drilled by Continental Oil Co. on lands owned by the Slaughter Land & Cattle Co.

Possible Ordovician Test

Ira Lord of Midland has been reported as the possible driller of an Ordovician test in northeastern Coke County, approximately 3 miles east of the two tests drilled by Marathon Oil Co. (then Mid-Kansas Oil & Gas Co.) which encountered good showings of oil but were not commercial.

Oyster and Rhodes have made location for a 3,500 foot test on the Mabel F. Reid ranch in Section 31, Block 34, Township 5s, T.&P. Survey.

Means Extension

Sun Oil Co. has extended the Means Pool, northern Andrews County, by its No. 1 J. S. Means, in the southeast quarter of Section 8, Block A-35, southwest of other producers. It was given a 500 quart shot at total depth of 4,545 feet in hard lime and flowed 54 bbls. the first half hour and 41 bbls. the second half hour following shot. Prior to shooting it failed to flow. A fishing job is holding up completion. It is the second test to be drilled by any company in the pool other than Humble Oil & Refining Co. discoverer. Shell Petroleum Corp. completed a well in the pool this week, the first completed by other than Humble.

Lew G. Stogner and others' No. 1 Mrs. Cora George, northwest of the Means Pool, which encountered a good showing of oil at 4,230-50 feet and from 4,325-45 feet is drilling at 4,500 feet in lime without any change, showing some oil with a little water from behind the pipe. It is in Section 25, Block A-22.

Howard County Extension

Eastland Oil Co. and John I. Moore's No. 1 Snyder, southwest corner of Section 28, Block 30, Township 1s, T.&P. Survey, eastern Howard County, about 3¼ miles southwest of the Dodge-Denman area and 2 miles northwest of a lone producer in Section 34, is an outpost that may prove a pool opener, connecting the areas or may extend only one or the other. It commands the drilling of three immediate offsets. It is pumping 25 bbls. per day at total depth of 3,010 feet. Elevation is 2,302 feet. This is a small well, but wells in this section are long lasting.

There were 19 locations staked in the district with 21 tests completed. Two locations were for wildcats, one in the northwest corner of Reagan County and one 8 miles north and 2 miles east of McCamey in Upton County. The former is to be drilled by Bahan and Rhodes on the Reed Ranch, in Section 31, Block 35, Township 5s, T.&P. Survey, the latter by Wahlenmaier Petroleum Corp. on the Sherk lands, in Section 25, Block 2, M.K.&T. Survey.

Ector County Extensions

Sun Oil Co.'s No. 1-B Wight, and Eppenauer Drilling Co.'s No. 1 Continental-Wight, the former in Section 10, Block 43, Township 1s, T.&P. Survey, and the latter in Section 22, Block 43, 1s, Ector County, extend the Cowden Field southwest and prove considerable territory. The former made 585 bbls. initial production at 4,200 feet after shooting, and the latter making only 80 bbls. of oil and 5 bbls. of water per day at total depth of 4,260 feet. It apparently is a southwest edge well.

Winkler County

Weaver and others' No. 1 Tobe Morton, in Section 11, Block 12-B, extends the Halley area about 2 miles north on the trend between it and the Brown and Altman and Howe areas. After plugging back from total depth of 2,948 to 2,937 feet, its initial production gauged only 68 bbls. But its location on the trend and being an extension makes it important.

Gulf Production Co. is completing the best well on its Keystone block northeast of Kermit in Winkler County, No. 5 Keystone, Section 6, Block 2-B, about three-quarters of a mile southeast of the Keystone discovery well. It made 1,213 bbls. of oil and 142 bbls. of water in 24 hours after shooting with 435 quarts from 3,450-3,650 feet, making 18,100,000 feet of gas. Other wells on this block, on which nine wildcats were drilled at once, have been somewhat disappointing as they gave trouble with bottom hole water and are small, No. 5 proving the best well yet drilled. Two appear dry holes, one shut down at 4,126 feet and the other, No. 8 drilling ahead at 4,398 feet in lime. These are on the extreme southwest side of the block and are defining tests.

Reeves County Failure

Herbert Oil Co.'s No. 1 Williams and Walker, a wildcat in southeastern Reeves County, near the Pecos River, was abandoned at a total depth of 5,004 feet after topping the Delaware at 4,880 feet and logging the sand at 4,900 feet. Elevation is 2,536 feet. It was given a 141 quart shot from 4,875-4,936 feet before being given up as a failure.

Sale

Bond Oil Corp. and Lee Harrison, represented by Dixie Minerals Co. of Fort Worth, have sold 560 producing acres in the Dodge-Denman Pool, eastern Howard County, and 160 nonproducing acres to Ennisbrook Oil Corp., in Section 4, Block 30, Township 1s, T. & P. Survey, R. H. (Bob) Henderson represented the purchasers.

Ranger and Wichita Falls

H. J. Cox of Graham has opened another deep producing area in Young County, near the south line. No. 1 W. A. Corbett, in the Ruthy Campbell Survey, logged the Stovall lime pay at 4,319-45 feet, was given a 100-quart shot from 4,288-4,338 feet and filled up 2,400 feet with oil, making an estimated 2,000,000 feet of gas. It was treated with 3,000 gallons and allowed to stand 48 hours before unloading. At unloading it swabbed and flowed 155 bbls. in one hour, half being the load. Two wells, one a 400-bbl. oil well and the other a 2,000,000-foot gasser, were drilled in this area in 1930, but abandoned. This well paves the way for more and deeper drilling, opening another deep pool in Young County. Elevation is 1,237 feet.

Cooke County Block

V. H. Kinkaid of Sulphur Springs has leased a block of approximately 6,000 acres in Cooke County, extending into Grayson County, on which a test, perhaps a deep one, will be drilled. Olsen Drilling Co. is drilling a deep test on a 22,000-acre block in

Grayson County, on Southwestern Life Insurance Co. lands in the J. C. Jamison Survey. Skelly Oil Co. holds a quarter interest in the block and Humble Oil & Refining Co. recently took 6,400 acres, other companies and independents purchasing spreads and protection acreage. The test is down at 2,290 feet, but had to be plugged back to 1,600 feet to straighten a crooked hole.

In the Gainesville area Roy Cunningham is moving in a heavy rotary on the R. V. Bell ranch in the W. H. White Survey, Abstract 1,134, in the Warren's Ben community, Cooke County. Ten miles east of Gainesville, Woodbine Oil Corp. has spudded on the C. C. Potter lands in the J. Gorham Survey. It will go to 2,500 feet and is being drilled with cable tools.

Hamilton County Block

Frank Bryan of Waco has leased a block of 6,000 acres 2 miles south of Hico in Hamilton County, in a prospective gas area. The block centers in the G. W. Poe Survey, and has been surveyed by the Geophysical Research, Inc., of Dallas.

There were 42 locations staked in the Wichita Falls district during the week with 38 tests completed, 13 being producers. Baylor County had four more good producers in the Portwood Pool, the largest 1,214 bbls. flowing and swabbing on a six-hour test, a record well for the county. Another made 1,200 bbls. per day, flowing.

PANHANDLE DISTRICT

There were seven locations reported for the Panhandle district and nine wells completed.

Skelly Oil Co. is to develop a block of 9,600 acres in western Hutchinson County for sour gas development. A drilling obligation calls for 14 tests within three years, Cabot Co. to take gas produced for its carbon black plant on the Armstrong ranch, which is to be increased to 45,000,000 feet of gas per day. The acreage is on the Reimers, Herring, Yake and Merchant ranches.

WEST TEXAS COMPLETIONS

Andrews County

Shell Petroleum Corp.'s No. 1 Means, total depth 4,536 feet, acidized, initial production 269 bbls.

Crane County

American Liberty Oil Co.'s No. 1 Tubbs, top pay 4,298 feet, total depth 4,314 feet, shot with 80 quarts from 4,288-4,307 feet, initial production 65 bbls. per day. Gulf Production Co.'s No. 1 McKnight, total depth 3,713 feet, plugged back to 3,604 feet, shot twice, initial production 7 bbls. of oil and 3 bbls. of water per hour.

Ector County

Sun Oil Co.'s No. 1-B Wight, top pay 4,111 feet, total depth 4,200 feet, shot, initial production 585 bbls. Eppenauer Drilling Co.'s No. 1 Continental-Wight, top pay 4,110 feet, total depth 4,260 feet, initial production 80 bbls. of oil and 5 bbls. of water.

Howard County

California Co.'s No. 4 Dodge, top pay 2,442 feet, total depth 2,768 feet, shot and acidized, initial production 268 bbls. White and others' No. 6 Read, top pay 2,560 feet, total depth 2,760 feet, shot, initial production 743 bbls. Bond Oil Corp.'s No. 4 Rhoton, top pay 2,610 feet, total depth 2,747 feet, shot, initial production 1,229 bbls.; No. 6 Rhoton, top pay 2,500 feet, total depth 2,745 feet, shot, initial production 1,012 bbls.

Glasscock County

Tide Water Oil Co.'s (Simms Oil Co.) No. 7 Coffee, top pay 2,145 feet, total depth 2,273 feet, acidized, initial production 499 bbls. of fluid, 40 per cent water.

Pecos County

Shell Petroleum Corp.'s No. 3-D University, top pay 1,445 feet, total depth 1,649 feet, acidized, initial production 235 bbls.; No. 2-E Smith, top pay 1,343 feet, total depth 1,350 feet, acidized, initial production 100 bbls. of oil and 49 bbls. of water in nine hours. Marathon Oil Co.'s No. 44-A Yates, top pay 1,120 feet, total depth 1,309 feet, initial production 2,116 bbls. per hour.

Reeves County

Herbert Oil Co.'s No. 1 Williams & Walker, dry and abandoned at 5,004 feet, top Delaware 4,880 feet, elevation 2,536 feet.

Upton County

International Petroleum Corp.'s No. 3-B McClintic, top pay 2,881 feet, total depth 3,043 feet, initial production 335 bbls.

Ward County

Atlantic Oil Producing Co.'s No. 3 Miller, top pay 2,370 feet, total depth 2,582 feet, initial production 319 bbls. Lindsay and Bolin's No. 1 Stewart, top pay 2,433 feet, total depth 2,610 feet, initial production 295 bbls. Gulf Production Co.'s No. 61 O'Brien, top pay 2,590 feet, total depth 2,800 feet, initial production 1,050 bbls.

Winkler County

Weaver and others' No. 1 Morton, top pay 2,707 feet, total depth 2,948 feet, initial production 68 bbls., pumping. Skelly Oil Co.'s No. 4 Halley, top pay 3,140 feet, total depth 3,150 feet, initial production 192 bbls. Gulf Production Co.'s No. 2 Keystone, top pay 3,169 feet, total depth 3,702 feet, shot, initial production 166 bbls.

PANHANDLE COMPLETIONS

Gray County

Kewanee Oil & Gas Co.'s No. 7 Morgan, top pay 3,197 feet, total depth 3,299 feet, initial production 777 bbls., pumping. Stanolind Oil & Gas Co.'s No. 2 Kinzer, top pay 3,251 feet, total depth 3,302 feet, shot, initial production 575 bbls., pumping; No. 4 Kinzer, top pay 3,287 feet, total depth 3,300 feet, shot, initial production 492 bbls. pumping. Texas Co.'s No. 2 Gethings, top pay 2,611 feet, total depth 2,721 feet, initial production 286 bbls., pumping.

Hutchinson County

Gulf Production Co.'s No. 54 Dial, total depth 2,936 feet, shot, initial production 98 bbls. oil and 24 bbls. water, pumping; No. 55 Dial, total depth 3,049 feet, shot, initial production 249 bbls., pumping. International Petroleum Co.'s No. 21 Lewis-Badger, top pay 2,975 feet, total depth 3,028 feet, shot, initial production 564 bbls. pumping.

Wheeler County

Alma Petroleum Co.'s No. 12 Johnson, top pay 2,302 feet, total depth 2,668 feet, initial production 903 bbls. Skelly Oil Co.'s No. 7 Johnson, top pay 2,448 ft., total depth 2,515 feet, initial production 5,194 bbls.

WICHITA FALLS (North Texas) COMPLETIONS

Archer County

L. T. Burns' No. 1 Bruno Morbitzer, total depth 2,064 feet, dry and abandoned; No. 2-A York Estate, total depth 1,419 feet, dry and abandoned. Burns and Long's No. 5 York Estate, top pay 1,309 feet, total depth 1,314 feet, initial production 100 bbls. per day. Continental Oil Co.'s No. 16-A W. J. Logan, total depth 1,157 feet, dry and abandoned. W. B. Hamilton's No. 18 W. S. Ikard, total depth 2,000 feet, dry and abandoned; No. 6 J. Longley, top pay 1,152 feet, total depth 1,159 feet, initial production 75 bbls. per day. Perkins and Cullum's No. 197 Falls, total depth 1,230 feet, dry and abandoned.

Wichita Production Co.'s No. 2 W. Pace, top pay 1,273 feet, total depth 1,285½ feet, initial production 10 bbls. per day; No. 3 W. Pace, total depth 1,292 feet, dry and abandoned.

Baylor County

Consolidated Oil Co.'s No. 7-R Portwood, top pay 1,320 feet, total depth 1,360 feet, initial production 1,200 bbls. per day flowing. Consolidated and Petroleum Producers' No. 26-D Portwood, top pay 1,363 feet, total depth 1,380 feet, initial production 725 bbls. per day flowing.

Ray and Staniforth's No. 19-C W. H. Portwood, top pay 1,336 feet, total depth 1,355 feet, initial production 600 bbls. per day flowing and swabbing; No. 20-C W. H. Portwood, top pay 1,333 feet, total depth 1,355 feet, initial production 1,214 bbls. flowing and swabbing on six hour test.

Clay County

Texas Co.'s No. 1 L. R. and F. M. Goetze, total depth 1,345 feet, dry and abandoned.

Cooke County

Wrightsmith Oil Co.'s No. 2 Stelzer, top pay 820 feet, total depth 855 feet, initial production 80 bbls. per day. Ruwaldt and Couch's No. 1-A Andress Brothers, total depth 1,462 feet, dry and abandoned. E. Stine and others' No. 1 Mrs. E. L. Bush, total depth 50 feet, abandoned.

Jack County

G. A. Erikson and other's No. 2 W. E. Hunt, total depth 554 feet, dry and abandoned. C. L. Gannamay No. 1 Gillispie, total depth 515 feet, dry and abandoned. Gray Drilling Co.'s No. 2 Shown, total depth 296 feet, dry and abandoned.

Montague County

Continental Oil Co.'s No. 11 J. W. Lawler, top pay 1,746 feet, total depth 1,763 feet, initial production 12 bbls. of oil and 87 bbls. of water per day pumping. Continental and Seitz and others' No. 9 S. J. Hott, top pay 1,569 feet, total depth 1,593 feet, initial production 106 bbls. of oil and 10 bbls. of water per day pumping. Lesh and McCall's No. 7-B R. W Cunningham, top pay 939½

—Courtesy of Standard Blue Print, Map & Engineering Co., Fort Worth, Tex.

C. J. Davidson and others' No. 1 Bennett, rank wildcat. Other fields and dry holes are shown in relation to it. The nearest field is the Hobbs Field, in eastern New Mexico

feet, total depth 960 feet, initial production 20 bbls. of oil and 20 bbls. of water per day.

Ross Drilling Co.'s No. 1 N. J. Howard (old well deepened, old total depth 836 feet), top pay 990 feet, total depth 1,010 feet, initial production 2 bbls. per day; No. 3 N. J. Howard, top pay 1,153 feet, total depth 1,173 feet, initial production 5 bbls. per day; No. 4 N. J. Howard, top pay 800 feet, total depth 824 feet, initial production 4 bbls. per day. United Producers and Continental's No. 1 W. R. Rich, total depth 2,925 feet, dry and abandoned.

Throckmorton County

Bearman Oil Co.'s No. 3 Kirk Ledbetter, top pay 763 feet, total depth 780 feet, initial production 30 bbls. per day; No. 4 Ledbetter, total depth 790 feet, dry and abandoned.

Wichita County

Boardman Brothers' No. 6 J. L. Jackson, total depth 792 feet, dry and abandoned. J. E. Keller's No. 1 R. J. Bradley, total depth 501 feet, dry and abandoned. H. B. Mitchell's No. 1 Sue Mitchell, total depth 1,268 feet, dry and abandoned. Waggoner Estate's No. 1-AA W. T. Waggoner Estate, total depth 1,744 feet, dry and abandoned.

Young County

J. W. Culbertson's No. 2 E. C. Stovall, total depth 414 feet, dry and abandoned; No. 1 W. R. Weaver, total depth 421 feet, dry and abandoned. T. F. Hunter's No. 1-B J. B. Taack, total depth 1,201 feet, dry and abandoned. W. E. Nunneley and other's No. 1 J. L. Boone Estate, total depth 481 feet, dry and abandoned. E. R. Perkins and other's No. 1 Mrs. Fay Clarke, total depth 1,192 feet, dry and abandoned.

WEST CENTRAL TEXAS (Ranger)

Brown County

Owens and others' No. 1 Reaves, total depth 1,291 feet, initial production 10 bbls. Gregg and others' No. 1 Smith, dry and abandoned 3,434 feet.

Callahan County

Campbell and others' No. 1 Duggan, dry and abandoned at 1,600 feet. Tooley and others' No. 1 Jackson, dry and abandoned at 600 feet. Hart and others' No. 1 Finley, total depth 536 feet, initial production 1,000,000 feet of gas.

Coleman County

Anzac Oil Corp.'s No. 1-C Morris, dry and abandoned 2,695 feet. Myers' No. 2 Gill, dry and abandoned at 791 feet.

Comanche County

Forrester and others' No. 1 Zellers, dry and abandoned at 2,910 feet.

Eastland County

Murry & McDavid's No. 1 Blank, total depth 1,324 feet, initial production 10 bbls.

Palo Pinto County

Palo Pinto Oil Corp.'s No. 13 Strawn Coal Co., total depth 3,238 feet, acidized, initial production 12 bbls.

Shackelford County

Albany Oil Co. and others' No. 4 Davis, total depth 1,604 feet, initial production 25 bbls. Banner and others' No. 1 Nail, dry and abandoned at 1,205 feet. Charter Oil Co.'s No. 5 Mimms, total depth 1,507 feet, initial production 75 bbls. Dickey Brothers' No. 3 Walker, dry and abandoned at 492 feet; No. 4 Walker, dry and abandoned at 406 feet. Grover and others' No. 1 Matthews, dry and abandoned at 588 feet. Hoffman and Page's No. 15 Morris and Buie, total depth 1,599 feet, initial production 50 bbls. Livingston and Wellman's No. 1 Swenson, total depth 1,600 feet, plugged back to 1,567 feet, initial production 7 bbls. Morlang and others' No. 2 Davis, total depth 1,610 feet, initial production 40 bbls. Peckman and others' No. 2 Matthews, dry and abandoned at 1,205 feet. Reliance Oil & Royalty Co.'s No. 6 Diller Brothers, dry and abandoned at 572 feet; No. 7 Diller Brothers, dry and abandoned at 527 feet; No. 1-B Nail, total depth 1,518 feet, initial production 90 bbls. Rhodes and Higher's No. 14 Davis, dry and abandoned at 1,594 feet. Roeser and Pendleton's No. 60-A-61 Cooke, total depth 1,372 feet, initial production 75 bbls.; No. 61-A-61 Cooke, total depth 1,273 feet, initial production 90 bbls. Slicker's No. 6 Matthews, total depth 1,177 feet, initial production 3 bbls. Tannehill and others' No. 25 Matthews, dry and abandoned at 1,702 feet. Tillman's No. 1 Green, total depth 1,125 feet, initial production 12 bbls. Wilson Drilling Co.'s No. 8 Morris and Buie, total depth 1,520 feet, initial production 15 bbls.

Throckmorton County

Wallace and others' No. 1 Latham, dry and abandoned at 2,226 feet. Humble Oil & Refining Co.'s No. 1-A Davis, dry and abandoned 5,496 feet.

WEST TEXAS WILDCATS

Week Ending October 5

Andrews County

Humble Oil & Ref. Co.'s No. 4 Means, 1,982 ft. from N and 660 ft. from E, Sec. 12, Blk. A-35.
T.D. 4,555 ft.; P.B. to 4,542 ft.; making 35 bbls. fluid per day; cleaning out.

L. G. Stogner et al's No. 1 Mrs. C. George, 660 ft. from S and E, Sec. 25, Blk. A-32, P.S.L. Sur.
Show oil 4,325-45 ft.; drlg. 4,500 ft.

Sun Oil Co.'s No. 1 J. S. Means, 1,980 ft. from S and 660 ft. from E lines of Sec. 8, Blk. A-35, P.S.L. Sur.
Fishing 4,545 ft.; heading oil.

Wahlenmaier et al's No. 1 Cox Estate, 1,320 ft. from N and W of Sec. 8, Blk. A-33.
Drlg. 3,612 ft.

Brewster County

F. C. Dodson's No. 1 Texas American Syndicate, 660 ft. from N and E, Sec. 66, Blk. 10, G.H.&S.A. Sur.
T.D. 1,715 ft.; lost drill pipe in hole.

Joiner et al's No. 1 McIntyre, 353 ft. from S, 2,390 ft. from E of Sec. 21, Blk. 353, W. M. Mitchell Sur.
S.D. 2,150 ft.

King & Franklin's No. 1 Gage Est., C Sec. 138, Blk. 22, G.H.&S.A. Sur.
Elev. 4,244 ft.; S.D. 1,360 ft.

G. H. Storey's No. 1 Wilson, 1,980 ft. from N and E lines of Sec. 3, Blk. 212, T.&St.L. Sur.
Elev. 3,609 ft.; S.D. 1,875 ft.

Cochran County

Humble Oil & Ref. Co.'s No. 1 C. D. Slaughter, 5,600 ft. from S and 6,000 ft. from E lines of League 135, Armstrong County School Lands
T.D. 2,336 ft.; standardizing.

Coke County

Haggerty et al's No. 1 Gaston, 340 ft. from S and 654 ft. from W, Sec. 11, Jos. Young Sur.
T.D. 3,225 ft.; cleaning out.

Concho County

Maverick Oil Co.'s No. 1 Jim Rice, 330 ft. from S and W lines of NW¼ of Sec. 15, S.N. Ry. Sur.
S.D. 150 ft.

John W. Westbrook's No. 1 Ledbetter, 1,950 ft. from N and 3,300 ft. from E lines of Sec. 2, Sur. No. 1,673.
Drlg. 547 ft.

Crane County

Gulf Prod. Co.'s No. 1 Waddell, C NW NW Sec. 4, Blk. B-37, P.S.L. Sur.
D.S. test 5,820-6,075 ft. showed only mud and water; coring 6,125 ft.

Wahlenmaier Pet. Corp.'s No. 2 Kioh, 330 ft. from S and W, Sec. 33, Blk. 44, Twp. 3s, T.&P. Sur.
Material.

Crockett County

Adkins Bros.' No. 1 Shannon, 330 ft. from S and 650 ft. from W of 80 in SW¼ Sec. 27, Blk. WX, G.C.&S.F. Sur.
Machine.

Leslie-Hiller et al's No. 1 Todd, 1,200 ft. N and 330 ft. E, Sec. 36, Blk. WX, G.C.&S.F. Sur.
S.D. 831 ft.

John I. Moore's No. 1 A. C. Hoover, 330 ft. from S and E lines of Sec. 4, Blk. FF B.&B. Sur.
Spudded and shut down.

Culberson County

Anderson-Prichard Oil Corp., Magnolia Pet. Co. et al's No. 1 Borders, 1,355 ft. N and 2,305 ft. from W, Sec. 34, Blk. 69, P.S.L. Sur.
T.D. 1,888 ft.; crooked hole.

Dawson County

Adams & Turner's No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 46, Blk. M, E.L.R.R. Sur.
S.D. 4,860 ft.

Ector County

Continental Oil Co.'s No. 1 Wight, 2,200 ft. from S and W, Sec. 21, Blk. 43, Twp. 1s, T.&P. Sur.
Drlg. 4,148 ft.

W. P. Dunning, Jr., et al's No. 1 Mrs. Clarence Scharbauer, 440 ft. from S and 2,200 ft. from W lines of Sec. 33, Blk. 44, Twp. 1n, T.&P. Sur.
Drlg. 560 ft.

Gulf Prod. Co.'s No. 3 Goldsmith, 440 ft. from S and E, Sec. 22, Blk. 44, Twp. 1s, T.&P. Sur.
Drlg. 1,762 ft.

Gulf Prod. Co.'s No. 2 Goldsmith, 2,200 ft. from N and 440 ft. from E lines of Sec. 15, Blk. 44, Twp. 1s, T.&P. Sur.
Drlg. 2,833 ft.

Empire G. & F. Co.'s No. 2 Wight, 440 ft. from N and W, Sec. 2, Blk. 43, Twp. 1s, T.&P. Sur.
Drlg. 2,336 ft.

C. L. Peters' No. 1 Connell, 330 ft. from N and E lines of NW of Sec. 12, Blk. B-16, P.S.L. Sur.
T.D. 3,591 ft.; shut in for proration gauge.

Sinclair Prairie Oil Co.'s No. 2 Wight, 2,200 ft. from N and 440 ft. from E, Sec. 10, Blk. 43, Twp. 1s, T.&P. Sur.
Location.

Sun and Atlantic's No. 1 O. B. Holt, 1,980 ft. from S and 660 ft. from W lines of Sec. 6, Blk. 43, Twp. 1n, T.&P. Sur.
Drlg. 2,141 ft.

Sun Oil Co.'s No. 1 W. P. Edwards, 466 ft. from N and E lines of Sec. 20, Blk. 43, Twp. 2s, T.&P. Sur.
Drlg. 1,215 ft.

Roy Westbrook's No. 1 Yarbrough & Allen, 440 ft. from N and W, Sec. 26, Blk. B-14, P.S.L. Sur.
Elev. 2,824 ft.; drlg. 3,735 ft.

York & Harper's No. 1 H. C. Foster, 660 ft. S and E Sec. 13-43-2s, T.&P. Sur.
Drlg. 712 ft.

Fisher County

L. A. Daniels et al's No. 1 J. J. Nickless, 1,700 ft. S and 2,070 ft. W of SW cor. of Sec. 60, H.T.&B. Sur., but in Sub. 1, G. W. Lawrence Sur., 6 miles E of Roby.
S.D. 93 ft.

Tide Water's No. 2 Howard, 1,620 ft. from N and 1,550 ft. from E lines of Sec. 180, Blk. 2, H.&T.C. Sur.
Drlg. 1,837 ft.

Tide Water Oil Co.'s No. 1 Newman, 1,758 ft. from N and 1,054 ft. from W of NE¼ Sec. 21½, John Rodman Sur., 4 miles SE of Roby.
Drlg. 2,522 ft.

Gaines County

Wahlenmaier Pet. Co. et al's No. 1 E. H. Jones, 660 ft. S and W, Sec. 414, Blk. G, C.C.S.D.&R.G.N.G. Sur., 23 miles NW of Seminole.
Drlg. 180 ft.

W. T. Walsh et al's No. 1 Averitt, 330 ft. N and E lines, Sec. 228, Blk. G, W.T.R.R. Sur.
Location.

Garza County

Dobbs Oil Co.'s No. 1 W. E. Connell, 330 ft. from SW of NW ¼ Sec. 75, Blk. 5, G.H.&H. Sur.
S.D. 2,405 ft.

Glasscock County

Moore Bros.' No. 1 Mrs. E. Miller, 660 ft. from S and E lines of Sec. 35, Blk. 34, Twp. 5s, T.&P. Sur.
T.D. 2,484 ft.; underreaming casing.

John I. Moore et al's No. 1 J. S. McDowell, 1,980 ft. from N line and 660 ft. from E line of Sec. 32, Blk. 34, Twp. 2s, T.&P. Sur.
Topped lime 9,471 ft.; show oil and gas 9,484-9,520 ft.; increase oil 9,594-9,600 ft. and 9,633-55 ft.; T.D. 10,115 ft.; casing pressure in 36 hrs. 125 lbs.

Howard County

T. P. Coal & Oil Co.'s No. 1 Douthit, 400 ft. from S and 2,310 ft. from W, Sec. 116, Blk. 29, W.&N.W. Sur.
Rigged up spudder.

John I. Moore et al's No. 1 Snyder, 330 ft. from S and W, Sec. 28, Blk. 30, Twp. 1s, T.&P. Sur.
Elev. 2,302 ft.; T.D. 3,010 ft.; pumping 25 bbls. per day.

Jeff Davis County

C. M. Joiner's No. 1 Jones & Coffield, 770 ft. from N and 1,323 ft. from E, Sec. 8, Blk. 3, H.&T.C. Sur.
C.O. 1,610 ft.

Jones County

Anderson & Kerr's No. 1 Jennings, 330 ft. from N and W lines of SE ¼ of Sec. 1, L.&G.N. Sur.
T.D. 1,685 ft.; swedging casing.

Campbell et al's No. 1 Howell, in E half of W half, Sec. 6, T.&P. Sur.
Drlg. 2,365 ft.

Conway & Gholson's No. 1 Cauthen, 150 ft. from S and W lines of Sec. 24, G. A. Williams Sur.
Drlg. 1,428 ft.

D'Arman & Shelton's No. 1 J. H. Huffaker, 150 ft. from S and 2,490 ft. from E lines of Sec. 25, D.&D.A. Sur.
Drlg. 1,940 ft.

J. N. Cooper's No. 1 W. E. Robinson, 660 ft. from S and E, Blk. 7, L. Matthews Sur.
Location.

R. L. Crawford et al's No. 2 Waltzer, 200 ft. from S and 532 ft. from W, Sec. 1, Blk. 2, T.&N.O. Sur.
Drlg. 110 ft.

Farris & Fikes No. 2 Jennings, 220 ft. from S and W of NE of SE¼, Sec. 207, B.B.&C. Sur.
Machine rigged up.

Farris & Fikes' No. 2 Jennings, 220 ft. from S and 660 ft. from W of NE of SE¼, Sec. 207.
S.D. 1,978 ft.

Farris & Fikes' No. 1-A Jennings, 1,980 ft. from S and 150 ft. from W, Sec. 1, I.&G.N. Sur.
Machine.

Herring & Hodges' No. 1 Mrs. C. D. Cowsart, 200 ft. from N and W, Sec. 42, Orphan Asylum Lands.
Location.

Humphrey-Guiberson Oil Corp.'s No. 1 Jennings, 220 ft. from N and 2,420 ft. from W, Sec. 207, B.B.B.&C. Sur.
Rigged up.

Humphrey-Guiberson Oil Corp.'s No. 1 Swenson, 220 ft. from N and 1,540 ft. from W, Sec. 1, I.&G.N. Sur.
Location.

N. H. Martin's No. 2 Dorsey, 200 ft. N and 700 ft. W of E½ Sub. 5, M. Buene Sur.
Drlg. 1,875 ft.

Tom D. Medders et al's No. 1 J. E. Manley, 1,170 ft. from S and E lines of Sec. 35, Blk. 14, T.&P. Sur.
Drlg. 1,022 ft.

Reliance Oil Co.'s No. 1 Crow, 660 ft. from S and 1,320 ft. from E lines of Sec. 1, D.&D.A. Sur.
Location.

Sandy Ridge Oil Co.'s No. 3 Jones, 1,520 ft. from N and 660 ft. from W, Sec. 5, Blk. 15, T.&P. Sur.
Location.

Ungren & Frazier's No. 1 Jennings, 330 ft. from S and 660 ft. from E of E¼ of NE¼ Sec. 207.
Top pay 2,036 ft.; S.D. 2,036 ft.

Kimble County

Forrest Dev. Co.'s No. 1 Stopp, 660 ft. from N and 1,866 ft. from W, Sec. 682, Blk. N, G.H.&S.A. Sur., 18 miles SE of Junction.
Rigged up.

Wilcox Oil & Gas Co.'s No. 1 J. Patterson, 200 ft. from N and E, Sec. 1, D.&P.R.R. Sur.
Show oil 3,677-82 ft.; S.D. 4,000 ft., contract depth.

Loving County

D. C. Evans' No. 1 W. D. Johnson, 2,310 ft. from N and 1,650 ft. from W, Sec. 12, Blk. 57, Twp. 1, T.&P. Sur.
S.D. 2,503 ft.

Mason Oil Co.'s No. 1 Kyle, 1,980 ft. from S and E, Sec. 22, Blk. 55, Twp. 1, T.&P. Sur.
Fishing 2,960 ft.

Lynn County

Hart Oil Co.'s No. 1-A Edwards, 425 ft. from N and 865 ft. from E line, Sec. 29, Blk. 1, L.&S.V. Sur.
S.D. 5,005 ft.; machine moved off.

Martin County

Harris & Meyers' No. 1 L. T. Brook.
S.D. 135 ft.

William Hix' No. 1 O. B. Holt, C of Labor 12, League 319, Garza County School Lands.
Spudded and shut down.

Wright & Scott's No. 1 Flannigan, 330 ft. N and E, Sec. 22, Blk. 37, Twp. 1s, T.&P. Sur.
S.D. 100 ft. for casing.

McCulloch County

Mark Hill's No. 1 Moore Bros., 934 ft. from S and 150 ft. from E lines of Sec. 1, State School Land Sur.
T.D. 690 ft.; P.B. to 605 ft.

Poulter et al's No. 2 Wyres, 50 ft. from S and 160 ft. from W, P. W. Rocins Sur.
Drlg. 1,324 ft.

Mitchell County

Lockhart et al's No. 1 W. C. Berry, 330 ft. from N and 2,310 ft. from E, Sec. 98, Blk. 97, H.&T.C. Sur.
Drlg. 1,425 ft.

Sawtell & Grueber's No. 1 Morrison.
T.D. 2,510 ft.; P.B. to 2,500 ft.; to acidize.

Nolan County

Harris et al's No. 1 Georgia Institute of Technology, 330 ft. from S and 1,320 ft. from W, Sec. 89, Blk. 24, T.&P. Sur.
S.D. 200 ft.

Pecos County

Comanche P. L. Co.'s No. 1 Schreff-Blackmore, 330 ft. from SW and 1,650 ft. from SE lines of Sec. 38, Blk. 3, H.&T.C. Sur.
Drlg. 1,478 ft.

Gulf Prod. Co.'s No. 7 White & Baker, 330 ft. from N and E, Sec. 16, Blk. 2, T.C.Ry Sur.
T.D. 695 ft.; underreaming casing.

C. R. Richards' No. 4 Courtney, 930 ft.

from N and W, Sec. 78, Blk. OW, 360 ft. S of No. 2.
Elev. 2,967 ft.; drlg. 826 ft.
Tex-Mex Pet. Co.'s No. 1 Phillips-Brandenburg, 330 ft. from S and E of N half Sec. 42, Blk. 8, H.&G.N. Sur.
Drlg. 582 ft.
Trans-Pecos Oil Co.'s No. 1 F. W. Popham, 1,650 ft. from S and E, Sec. 235, Blk. 11, G.H.&S.A. Sur.
Material.
Trans-Tex. Oil Co.'s No. 1 Caldwell, 330 ft. from E line and 330 ft. from S line of Sec. 27, Blk. 40, Twp. 9, T.&P. Sur.
Drlg. 3,829 ft.

Reagan County

Bahan & Rhodes' No. 1 Reed, 1,320 ft. from N and W, Sec. 31, Blk. 35, Twp. 5s, T.&P. Sur.
Material.
Dobbs Oil Co.'s No. 2 Friend, 660 ft. from W and 1,375 ft. from S, Sec. 3, Wm. Allen Sur.
Location.
Dobbs' No. 1 Friend, 2,310 ft. from S and 660 ft. from W of Blk. 3, Wm. Allen Sur., 3 or 4 miles S of Big Lake.
S.D. 2,464 ft.; P.B. 2,400 ft.; acidized; cleaning out.
Plymouth Oil Co.'s No. 1 Belcher, 1,320 ft. from S and 466 ft. from W, Sec. 1,321, G.C.&S.F. Sur., 4 miles SE of Centralia.
S.D. 3,370 ft.
Skelly Oil Co.'s No. 6 Grayson, 1,320 ft. from N and 440 ft. from W, Sec. 32, Blk. 3, University Lands.
Rigged up cable tools.
Sun Oil Co.'s No. 1 L. W. Young, Sec. 1, G.C.&S.F. Sur., Abst. 170.
Drlg. 1,727 ft.

Reeves County

Dunigan's No. 1 Davis, 330 ft. from N and W, Sec. 7, Blk. 58, P.S.L. Sur.
Location.
Grisham-Hunter Corp.'s No. 1 T. P. Land Trust, 1,320 ft. from S and W lines, Sec. 31, Blk. 57, Twp. 2, T.&P. Sur.
Elev. 3,020 ft.; T.D. 1,360 ft.; fishing.
K. Slack et al's No. 1 Reeves, C NW ¼ Sec. 20, Blk. 56, P.S.L. Sur., 22 mi. N of Toyah.
Top lime 2,680 ft.; top Delaware 3,126 ft.; show oil and gas 3,132 ft.; shut down for orders.
Washington Oil Co.'s No. 1 J. M. Radford Grocery Co., 2,640 ft. from S and 340 ft. from E, Sec. 39, Blk. 56, P.S.L. Sur.
Elev. 3,169 ft.; T.D. 502 ft.

Runnels County

John Caster et al's No. 1 Giesecke, 330 ft. from N and 713 ft. from E, Sub. 3, Blk. 120, J. Hughes Sur. 227.
S.D. 502 ft.

Schleicher County

John M. Cooper et al's No. 1 Bert Page, 1,390 ft. from N line, 1,470 ft. from W line of Sec. 40, Blk. L, G.H.&S.A. Sur.
T.D. 6,257 ft.; P.B. to 5,555 ft.; acidized and made estimated 6,000,000 ft. gas; may re-treat.
W. C. Proctor et al's No. 1 Judkins & Spencer, C SW ¼ Sec. 4, Blk. V-28.
T.D. 2,205 ft.; underreaming casing.

Scurry County

Coffield & Guthrie's No. 1 Wade, 990 ft. from N and 330 ft. from W, Sec. 115, Blk. 97, H.&T.C. Sur.
Drlg. 1,923 ft.
Magnolia Pet. Co.'s No. 1 W. M. Scott, 330 ft. from S and W, Sec. 186, Blk. 3, H.&G.N. Sur., 5 miles S of Snyder.
Elev. 2,341 ft.; drlg. 2,585 ft.

Sutton County

Fleetborn Oil Corp.'s No. 1 G. S. Allison, 660 ft. from S and W, Sec. 49, Blk. A, G.W.T.&P. Sur.
Rigged up rotary.

Taylor County

Anderson et al's No. 1 J. C. High, 1,-310 ft. from N and 990 ft. from E, Sec. 8, L.&L. Sur.
Rigged up machine.
Hickok's No. 1 Tittle, 660 ft. from N and W, Sec. 37, Blk. 19, T.&P. Sur.
Drlg. 2,683 ft.
Skaggs & Brewer's No. 1 McClure, 330 ft. from N and E, S½ SW Sec. 8, L.A. L. Sur.
T.D. 1,920 ft.; swabbing 15 bbls. day.

Tom Green County

Mays Oil Co.'s No. 1 I. Funk, 1,980 ft. from S and 660 ft. from W, Sec. 38, Blk. 5, H.&T.C. Sur.
Material.
Twin Oil Co.'s No. 1 W. E. Green, 1,050 ft. from N and 1,400 ft. from W, L. P. Moore Sur. 169½.
S.D. 315 ft.

Upton County

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G. Sur.
T.D. 12,786 ft.; P.B. to 3,518 ft.; standardized; to pump.
Humble O. & R. Co.'s No. 1 Pollock, C of NW Sec. 4, Blk. M.
Drlg. 10,126 ft.
J. G. McKenzie's No. 1 Taylor, 1,650 ft. from S and 330 ft. from E lines of Sec. 31, Blk. B-3, G.H.&S.F. Sur.
T.D. 630 ft.
W. C. Ray's No. 1 Cordova-Union, 2,035 ft. from S and 2,895 ft. from W of NE¼ Sec. 3, A.B. Sur., 5 mi. SE of McCamey.
Fishing 1,612 ft.
Wahlenmair Pet. Corp.'s No. 1 Sherk, 330 ft. from N and E, Sec. 25, Blk. 2, M.K.&T. Sur., 2 mi. E and 8 mi. N of McCamey.
Drlg. 410 ft.

Ward County

Alexander's No. 1 Richter, 1,650 ft. from NW, 1,170 ft. from NE line of Sec. 37, Blk. 34, H.&T.C. Sur.
T.D. 2,465 ft.; to shoot tubing.
California Co. et al's No. 1 McFarland, 990 ft. from NE and 330 ft. from SE. Sec. 29, Blk. 34, H.&T.C. Sur.
T.D. 2,526 ft.; cleaning out.
C. Cochran's No. 1 K. Greene, 990 ft. from NW and 2,980 ft. from SW, Sec. 29, Blk. B-29, P.S.L. Sur.
Rigged up.
Eastland Oil Co.'s No. 1 Johnson, 330 ft. NW and NE, Sec. 24, Blk. 34, H.&T.C. Sur.
T.D. 2,570 ft.; making 15 bbls. day.
Empire G. & F. Co.'s No. 2 Smith, 990 ft. from N and 1,650 ft. from E, Sec. 5, Blk. F.
T.D. 2,570 ft.; building new derrick.
Hill et al's No. 1 Clements, 330 ft. from NW and 990 ft. from SW, Sec. 24, Blk. 5, H.&T.C. Sur.
T.D. 2,375 ft.; running casing.
Ice & Luce's No. 1 Baker, 1,650 ft. from NE and 330 ft. from NW, Sec. 15, Blk. 5, H.&T.C. Sur.
P.B. 2,480 ft.; shot; fishing bit.
Jerry Sines' No. 1 Brown, 330 ft. from NW and NE, Sec. 13, Blk. 5, H.&T.C. Sur.
T.D. 3,148 ft.; P.B. 3,055 ft.; cleaning out.
Stanolind O. & G. Co.'s No. 1 W. H. Martin, 1,650 ft. SW and 330 ft. from SE Sec. 40, Blk. 34, H.&T.C. Sur.
Drlg. 1,532 ft.
Abell Brothers' No. 1 Lancaster Estate, 294 ft. N 20 degrees and 15 minutes W of NE cor. Sec. 61, Blk. 8, H.&G.N. Sur. in Pecos County, 5½ miles down Pecos River from NW cor. of Pecos and E cor. of Reeves County.
Spudded and shut down.

Winkler County

Atlantic Oil Prod. Co.'s No. 1 Simmons, 2,310 ft. from S and 330 ft. from E, Sec. 36, Blk. 26, P.S.L. Sur.
Location.
Cree & Hoover's No. 1 Crowe, 2,310 ft. from S and 330 ft. from W, Sec. 14, Blk. B-5.
S.D. 400 ft.
Emperor Oil Co.'s No. 1 Hailey, 1,650 ft. from S and 330 ft. from E, Sec. 12, Blk. B-12.
Elev. 2,764 ft.; T.D. 2,886 ft.; flowing 50 bbls. day.
Gulf Prod. Co.'s No. 3 Keystone Cattle Co., 330 ft. from N and W of NE¼ Sec. 11, Blk. B-3.
T.D. 3,765 ft.; 38 bbls. oil and 52 bbls. water in 24 hrs.; to plug back.
Gulf Prod. Co.'s No. 4 Keystone Cattle Co., 330 ft. from N and E, Sec. 20, Blk. B-3.
T.D. 3,756 ft.; P.B. 3,591 ft.; to test.
Gulf Prod. Co.'s No. 5 Keystone Cattle Co., 330 ft. from N and W of SW¼ Sec. 6, Blk. B-2.
Elev. 2,952 ft.; T.D. 3,784 ft.; P.B. 3,650 ft.; flowing 11 per cent b.s. and water.
Gulf Prod. Co.'s No. 6 Keystone Cattle Co., 330 ft. from N and W of NE¼ Sec. 16, Blk. B-2.
Elev. 2,950 ft.; T.D. 3,676 ft.; flowed 166 bbls. in 24 hrs.
Gulf Prod. Co.'s No. 7 Keystone Cattle Co., 330 ft. from N and W of SW¼ Sec. 14, Blk. B-2.
Elev. 2,954 ft.; T.D. 3,652 ft.; flowed 33 bbls. in 24 hrs.
Gulf Prod. Co.'s No. 8 Keystone Cattle Co., 330 ft. from S and W of Sec. 13, Blk. B-2.
Elev. 2,964 ft.; T.D. 4,292 ft.; reaming bridge and cleaning out.
Gulf Prod. Co.'s No. 9 Keystone Cattle Co., 330 ft. from S and W of Sec. 18, Blk. B-2.
Elev. 2,946 ft.; T.D. 4,126 ft.; shut down.
K-D Oil Co.'s No. 1 P. Mitchell, 1,650 ft. from N and 2,310 ft. from E, Sec. 23, Blk. B-10, P.S.L. Sur.
Cable tools rigged up.
Mascho Oil Co.'s No. 1 Evans, 1,320 ft. from N and W, Sec. 8, Blk. A-56.
Spudding 105 ft.
Mascho Oil Co.'s No. 1 Evans, 1,170 ft. from N and 1,320 ft. from W, Sec. 46, Blk. 73, P.S.L. Sur.
S.D. 180 ft.
Richardson's No. 1 B. F. Jenkins, 440 ft. from S and E, Sec. 13, Blk. 77, P.S.L. Drlg. 2,593 ft.
Showers & Moncrief & Crafton O. Co.'s No. 2 Pure-Walton, 2,200 ft. N and E Sec. 1, Blk. 3-B.
Location.
Showers & Moncrief & Crafton O. Co.'s No. 1 Pure-Walton, 440 ft. E and 1,320 ft. S Sec. 2, Blk. 3-B, P.S.L. Sur.
Derrick.
Skelly Oil Co.'s No. 3 Hailey, 2,200 ft. from N and 1,320 ft. from E, Sec. 25, Blk. B-11.
T.D. 3,855 ft.; P.B. 3,319 ft.; fishing.
Stosi Oil Co.'s No. 1 Lowett, 330 ft. from N and E, Sec. 36, Blk. 26, P.S.L. Sur.
T.D. 3,130 ft.; P.B. 3,091 ft.; bailing and testing.
Sun Oil Co.'s No. 1 Crow, 440 ft. from S and W, Sec. 23, Blk. B-5.
Location.
Sun Oil Co.'s No. 1 Walton, 2,200 ft. from S and 440 ft. from E, Sec. 8, Blk. B-3.
Rigged up rotary.
Westbrook's No. 1 Brown & Altman, 1,-310 ft. from N and E, Sec. 5, Blk. B-5.
Drlg. 2,448 ft.
Thurman et al's No. 1 Seth Campbell 18-B-3, 330 ft. from S and 1,650 ft. from W lines of Sec. 18, Blk. B-3, P.S.L. Sur.
S.D. 1,117 ft.
Wilgo Oil Corp.'s No. 1 Campbell, 990 ft. from N and 300 ft. from E Sec. 2, Blk. 5, P.S.L. Sur., 3 miles E of Kermit.
Elev. 2,884 ft.; T.D. 4,629 ft.; P.B. 3,800 ft.; ran casing.

Yoakum County

C. J. Davidson et al's No. 1 Bennett, 1,-320 ft. from N and E, Sec. 678, John H. Gibson Sur.
Elev. 3,557 ft.; T.D. 5,090 ft.; shut down for 7-in. casing with 800 ft. oil in hole; show gas 3,400-10 ft. and 5,085-90 ft.

E. C. TEXAS WILDCATS

Week Ending October 5

Cayuga Area—Anderson County

Tide Water Oil Co. et al's No. 21-A Willa, 4,079 ft. N and 2,333 ft. W of lease, S. Edmondson Sur. (Trinity test).
No information.

Long Lake Area—Anderson County

Tide Water-Seaboard's No. 2 Shaw & Cern, S. Sanchez Sur., 3,266 ft. E line and 2,-333 ft. S line of 1,216-ac. tract, or 935 ft. N and 933 ft. W of No. 1 Shaw & Cern.
S.D. 2,127 ft.

Angelina County

Burnham et al's No. 1 Norton Properties, 700 ft. NW cor. and 600 ft. from E of W. M. Johnson Sur., 8 miles SW of Zavala in SE part of county.
S.D. 612 ft.
S. W. Henderson, Jr.'s No. 1 B. A. Weeks, 990 ft. E and 375 ft. N, H. Gayman Sur., 3 miles W of Lee-Tex' No. 1 Guissler.
Coring 2,010 ft.
Pioneer Exploration Co.'s No. 1 Mrs. Willroy, 700 ft. N line of D. C. Welsh Sur., and center of E and W lines of Sur., ¼ mile NW of Huntington.
Elev. 312 ft.; S.D. 1,429 ft.; swabbed 3 bbls. oil and swabbed dry.

Bowie County

Tex-Ark. Oil Co.'s No. 1 Hamilton Estate, 660 ft. E and 350 ft. N lines, J. Milan Sur., 4 miles S of Red River.
S.D. 1,121 ft.
Woodley & Bentley's No. 1 Lumpkin, 330 ft. out of NE cor. of 245-ac. tract, J. McDermot Sur., 1 mile SW of Dalby Springs.
S.D. 120 ft.

Cherokee County

Wilson Stubbs Oil Co.'s No. 1 Rowborta, 450 ft. from S line, 150 ft. from W line of 100-ac. tract, 2 miles SW of Jacksonville, J. D. Wolfin Sur.
S.D. 1,553 ft.

Collin County

Port Bolivar O. & R. Co.'s No. 1-A Dunning, 24 ft. W of No. 1, Wm. Creager Sur., 2 miles SE of Van Alystin.
Drlg. 105 ft.
Port Bolivar O. & R. Co.'s No. 1 J. Shirley, 330 ft. N and W of 310-ac. tract, J. Sorrell Sur., 4 miles SE of Anna.
Fshg. 1,955 ft.

Ellis County

Beasley O. & G. Co.'s Inc.'s No. 1 E. Roller, 1,000 ft. from NW and 1,500 ft. from SW line of Sur.
S.D. 160 ft.

Falls County

Bell & Hays' No. 1 Taylor, 155 ft. from N and 465 ft. from E of 20-ac. tract, J. A. Manchaca Sur., Chilton area.
S.D. 1,046 ft.; filled up 65 ft. oil and wtr. in 12 hrs.

Fannin County

J. A. Hoover's No. 1 McFall, 750 ft. from SW cor. of Tract 5, Garrison Sur., 4 miles SE of Wortham.
Derrick, 7,000 ft. test.
Warner Moore et al's No. 2 Hancock Est., 1,200 ft. N and 500 ft. E of L. M. Baldock Sur., 1 mile E of Trenton.
Location.
Warner Moore et al's No. 1 Hancock, 400 ft. from W and 150 ft. N lines, Sec. 16, L. M. Baldock Sur., ¼ mile S of Trenton.
Top sand 645 ft.; S.D. 657 ft.
R. Franklin Smith-Allen-Argo's No. 1, center of 16½-ac. tract in J. G. Swisher Sur.
Drlg. 1,110 ft.

Freestone County

J. E. Milburn's No. 1 S. E. McShan, 4,000 ft. NW and 5,000 ft. NE of tract, 3 miles SE of Donie G. Diaz Sur.
S.D. 270 ft.

Grayson County

Olson Drlg. Co.'s No. 1 Southwestern Life Ins. Co., center of 160-ac. tract and J. C. Jamison Sur., 6 miles NW of Denison.
S.D. 1,500 ft.
Port Bolivar O. & R. Co.'s No. 1 C. Taylor, 330 ft. S and W of 1,543-ac. tract, Fitzhugh Sur., 2¼ miles SE of Gunter.
Derrick.

Henderson County

Kirby Pet. Co.'s No. 1 C. L. Litchfield, 600 ft. N and 350 ft. W, L. Clendennen Sur.
Pecan Gap 2,242-46 ft.; drlg. 3,112 ft.
H. M. Wilson's No. 1 fee, 970 varas S of NE cor. of 943-ac. tract, 5 miles N of Malakoff.
Derrick.

Hunt County

J. F. Morrissey & Co., Inc.'s No. 1 Fry, 543 ft. from N and 200 ft. from E of 146-ac. tract, 7 miles N of Commerce, C. Davis Sur.
T.D. 4,407 ft.; fishing.

Kaufman County

Germany et al's No. 1 Clark, 951 ft. N and 1,000 ft. W of tract, S. Eden Sur.
T.D. 1,760 ft.
Murry & Emerson's No. 1 G. W. Martin, 1,660 ft. from W and 20 ft. from N of 140-ac. tract, from W, L. C. Butler Sur., 2 miles NE of Kemp.
Drlg. 2,082 ft., elev. 429 ft.

Lamar County

Gulf Pet. Co.'s No. 1 A. L. Darnell, 1,400 varas from S and 1,080 varas from W line of H. L. Williams Sur., 4 miles NE of Paris.
S.D. 2,112 ft.
North Texas Synd., Eric T. Bradley, tr.'s No. 1 Wright, Alfred Moore Sur., 1,600 ft. S and 4,300 ft. from E line of Sur.
Coring 1,846 ft.

Leon County

Tide Water-Seaboard's No. 1 A. W. Johnson, located in S. Sanchez No. 7, 1,500 ft. E and 1,200 ft. N of most westerly SW cor. 425-ac. lease.
Elev. 230 ft.; top sand 5,258-64 ft.; S.D. 5,312 ft.

Limestone County

D. Crawford's No. 1 Mary Ward, 150 ft. out of NE cor. 28-ac. tract, P. Varella Sur.
Rig.

McLennan County

T. Cunningham's No. 1 M. G. McKee, 940 ft. from S and 2,640 ft. W of 640-ac. tract, M. Snell Sur., near Bruceville.
Derrick.
Riley & Barrow's No. 1 Hortsman, V. C. Walters Sur., 500 ft. from most northerly N line, 500 ft. from most westerly E line, 500-ac. tract, 1½ miles S McGregor.
S.D. 475 ft.

Nacogdoches County

Rosser Bros. & Jackson's No. 1 Matthy, 330 ft. out of NE cor. 60-ac. tract, Pedro J. Esparza Sur., 5 miles S of Nacogdoches.
S.D. 565 ft.

Navarro County

McCullough et al's No. 1 C. Berry, 330 ft. from SE cor. of 25-ac. tract, 1 mile W of Dawson, William Moss Sur.
S.D. 1,500 ft.
E. M. Thomason's No. 1 T. P. Shivers, 1,500 ft. from W. and 600 ft. N. of 69-ac. tract, W. R. Bowen Sur., 2 miles S. of Corsicana.
S.D. 1,257 ft.
Wiggins et al's No. 1 Donoho, 450 ft. from N and 1,101 ft. from E lines in John Couple Sur., SW of Corsicana.
T.D. 1,439 ft.

Rains County

Allen & McClung's No. 1 Giles, T. Cunningham Sur., Abst. 143, 330 ft. from W line and 200 ft. from N line of 105-ac. Giles tract, 5 mi. SW of Emory.
Derrick.
Allen & McClung's No. 1 Ida Bullard, N. Brantely Sur., 1,300 ft. from W line and 200 ft. from N line of 35-ac. tract, 2 mi. SW of Emory.
Derrick.
Allen & McClung & Collard's No. 1 S. P. Cain, 1,350 ft. N and 1,550 ft. W line of J. Harges Sur., 1 mile NW of Emory.
Location.

Red River County

Abercrombie & Harrison's No. 1 Southern Pine Lumber Co. (Wright), 500 ft. S and center of E and W lines of 82.5-ac. tract in S. Pew Sur., 6 miles N of Bagswell.
Drlg. 565 ft.
Joe Dinger et al's No. 2 Morris, John Guest Sur., approx. 175 ft. NW of No. 1 Morris, 1 mile S Detroit.
Rigged up.
R. H. Chew et al's No. 1 J. F. Brooks, 900 ft. N and 600 ft. of W line of 320-ac. tract, B. Gooch Sur., ¼ mile S of Bagswell.
Derrick.
Joiner's No. 1 D. Rust, C. C. Wilborn Sur., 284 ft. N and 254 ft. W of most southerly SE cor. of Sur., just south of Avery.
Derrick.

Rockwall County

Dodd et al's No. 1 M. F. Lofland, 330 ft. out of NW cor. 393-ac. tract, W. H. Beird Sur., 2½ miles SE of Rockwall.
Derrick.

Rusk County

Edwards & Prior's No. 1 W. R. Poston, 330 ft. out of NW cor. 50-ac. tract, J. Roth Sur., E line 429 ft.
Fshg. 2,937 ft.
J. W. Shipman et al's No. 1 Citizens Natl. Bank, NE cor. of 135-ac. tract, J. J. Y'Barbo Sur., 4 miles NE of Henderson.
Elev. 432 ft.; S.D. 2,800 ft.

Titus County

S. Rotondi's No. 1 Lillianstun, 1,320 ft. E from NW cor. of J. Bodt Sur. and 330 ft. N, but in W. H. Crawford Sur., 5 miles NE of Talco.
Elev. 301 ft.; derrick.

Upshur County

J. Papakadis et al's No. 1 W. H. Allen, 150 ft. out of SE cor. of 37-ac. tract in Line Gonsales Sur., 8 miles S of Gilmer.
T.D. 3,776 ft.; to make drill stem test.

Van Zandt County

J. H. Gilliam et al's No. 1 E. S. Martin, 185 ft. most southerly SE line, and 208 ft. from most easterly SW line of tract, James Hamilton Sur., 3 miles NE of Wills Point.
Location.
Pioneer Exploration Co.'s No. 1 B. Spruce, 330 ft. out of SE cor. of 50-ac. tract, in J. Denman Sur., 3 miles S of Canton, 5,000 ft. test, drlg. 75 ft.

ROCKY MOUNTAIN AREA

(Continued from Page 46)

tubes, chosen purposely so it would be free of oil. The gas reaches its destination on well pressure. The plant has a rated capacity of 15 tons of dry ice per day. It was designed and built by Lester O. Warner, formerly of Los Angeles, but now connected with the company, and is the only one of its kind in the world.

The gas used in the New Mexico plant comes from arkose sand in the Pennsylvania formation. A remarkable feature of the production is that although the pull on the well has been around 50 per cent of capacity, when it was cleaned out the volume and pressure was practically the same as when it first came in.

Bernalillo County

Norina Realty Co., Inc.'s No. 1 Callegan grant, S NW NW Sec. 19-11n-4e.
Completed as water well at 587 ft.; rig skidded 32 ft. to west; drlg. 150 ft.

McKinley County

Co-operative Prod. & Ref. Co.'s No. 1 fee, SW cor. Sec. 21-20n-9w.
Drlg. 470 ft. in shale.

Quay County

Quay County Dev. Co.'s No. 1 Wallace, C SE SW Sec. 19-9n-32e.
S.D. 752 ft. for wire line; 10-in. at 403 ft.; 8¼-in. at 553 ft.

Rio Arriba County

El Vado Structure Properties Co., Ltd.'s No. 1-A Tierra Amarilla grant, NE Sec. 26-3s-1e (unsurveyed).
Rigging.

Sandoval County

Continental Oil Co.'s No. 1 L-Bar Cattle Co., CEL SE NE Sec. 2-13n-4w.
T.D. 4,396 ft.; fshg. for D.S. bit, twisted off at 3,253 ft.

San Juan County

Continental Oil Co.'s No. 47 Rattlesnake, SE NW NW Sec. 2-29n-19w.
T.D. 734 ft.; preparing to test.
Cross & Poole's No. 1 Aztec, Sec. 1-30-11w.
Making water shutoff at 740 ft.
Kutz Canon O. & G. Co.'s No. 1 Day, SW SW SW Sec. 20-28-10.
T.D. 4,400 ft.; fishing for tools.
Phillips & Spence's No. 2 Martin, NW NE SW Sec. 34-30n-11w.
Comp. for 238,000 ft. gas in sands at 927-49 ft. and 1,013-19 ft.
Reserve Oil Co.'s No. 6 Shaffer, SE NE SE Sec. 26-22n-14w.
Location.

TURN BACK TO

The Titusville Iron Works Company's Advertisement

Pages 106A, 107A

It contains an announcement of inestimable value to every drilling superintendent and contractor

W. R. Webb's No. 1 fee, CEL NE NW Sec. 6-30-11w.
P.B. from 1,500 ft. to 1,350 ft.; set pipe and preparing to test.

San Miguel County

Pioneer Oil Co.'s No. 2 Montezuma, CSL SE SW Sec. 14-15n-16.
Drlg. 300 ft.
Starr-Kennedy Oil Co.'s No. 3 Adams, NE NE SE Sec. 25-17-16.
Standing at 5,090 ft. after completing rig; to resume following fire.

Torrance County

Estancia Valley Carbon Dioxide Dev. Co.'s No. 1 Kellogg, NW NE Sec. 12-7n-7e.
Drlg. 570 ft. (first report).
45 Pet. Co.'s No. 1 Greenfield, C NW SW Sec. 17-9-8e.
T.D. 750 ft. gray lime; show CO_2 gas at 530 ft.; reaming at 632 ft.
Bruce Frazier's No. 1 Frazier, SE Sec. 12-2n-31.
Drlg. 1,210 ft. in granite wash water at 882-86 ft.

Union County

Sierra Grande Oil Corp.'s No. 2 Rogers, C NE SW Sec. 4-29-26.
T.D. 2,715 ft. in granite.
Pres-Sel Dev. Co.'s No. 1 Morris, SE NE Sec. 20-12-16w.
Dry and abd. at 625 ft.
Western Natural Resources Corp., Inc.'s No. 2 San Clemente, SE SE NW Sec. 5-6n-1e.
T.D. 6,001 ft.

SOUTHEASTERN NEW MEXICO

In the Hobbs Pool, Lea County, Shell Petroleum Corp.'s No. 2 Lizzie Rice, C SW SE Section 13-18-37, was completed. It was acidized with 16,000 gallons in pay at 4,050-4,263 feet and flowed 6,850 bbls. of oil and 8,000,000 feet of gas in 24 hours.

Amerada Petroleum Corp.'s No. 1 State G, C SW SW Section 18-19-37, flowed 1,056 bbls. of oil and 890,000 feet of gas from pay at 3,916-4,041 feet, which had been given a 500-gallon and then at 3,000-gallon acid treatment.

Gypsy Oil Co.'s No. 1 Steve Taylor, C SE NE Sec. 24-18-38 (wildcat).
Drlg. 1,225 ft.
Samedan Oil Co.'s No. 1-B State, CEL SE NW Sec. 25-18s-37e.
T.D. 4,343 ft., with hole full of fluid; plugged back to 4,166 feet and getting ready to acidize.
National Securities Oil Co.'s No. 1 Linam, NE SE SW Sec. 33-18-37.
T.D. 4,506 ft.; P.B. to 4,238 ft.; 1,000 ft. oil, 300 ft. water in hole, shut down for orders.
Tide Water Oil Co.'s No. 1 State, 2,310 ft. from N, 330 ft. from E lines, Sec. 14-18-37.
Drlg. 4,244 ft.
Samedan Oil Co.'s No. 4 State C, 1,315 ft. from S and W lines of Sec. 24-18-37.
Drlg. 3,612 ft.
Gypsy Oil Co.'s No. 2 North Grimes, 330 ft. from S and 1,650 ft. from W lines Sec. 21-18-38.
T.D. 4,225 ft., will acidize.
Phillips Pet. Corp.'s No. 1 Culp, C NW NW Sec. 19-19-37.
Flowed 200 bbls. in 5 hrs.; T.D. 3,990 ft.
Stanolind Oil & Gas Co.'s No. 1-X Capps, 2,310 ft. from E line and 660 ft. from N lines, Sec. 3-19-38.
Moving in rotary.
Gypsy Oil Co.'s No. 2 Culp, C SW SW Sec. 19-19-37.
Rig.

Cooper Area

Humble Oil & Ref. Co.'s No. 3 Mosely, C NE SE Sec. 10-24-36.
Set 7⅝-in. casing at 3,160 ft.
Humble Oil & Ref. Co.'s No. 1 Harrison, C SW SW Sec. 25-24-36.
Drlg. 2,670 ft.
Tide Water Oil Co.'s No. 1 Coats, C SW NE Sec. 10-24s-36e.
T.D. 3,700 ft.; plugged back to 3,666 ft. Acidized; tested dry; reacidized; swabbed 20 bbsl. Shut down for orders.
Stanolind O. & G. Co.'s No. 1 Meyer B, C NW NE Sec. 26-24-36.
T.D. 3,530 ft.; swabbed 80 pct. water. Will plug back.
Skelly Oil Co.'s No. 2 Coates, C NE SW Sec. 3-24-36.
T.D. 3,550 ft.; 1,000 gals. acid. Flowed 100 bbls. oil per hr.
Skelly Oil Co.'s No. 3 Coates, C SW SW Sec. 3-24-36.
T.D. 3,578 ft.; good show of oil and gas at 3,536-78 ft.
Continental Oil Co.'s No. 1-A-27 Gates, C SE SE Sec. 27-24-36.
Drlg. 2,450 ft.
Phillips Pet. Co.'s No. 1 Woolworth, C NE NW Sec. 33-24-37 (wildcat).
Drlg. 3,228 ft.
Skelly Oil Co.'s No. 1 Harrison, C NW SW Sec. 5-23-37.
Drlg. 250 ft.
Gypsy Oil Co.'s No. 1 Lemunion, C NE NE Sec. 28-23-37.
Shut down at 529 ft.
Gypsy Oil Co.'s No. 2 Cooper, C NW SE Sec. 14-24-36.
Rigging up rotary.
Continental Oil Co.'s No. 2 Gates, N C NW NW Sec. 23-24-36.
Rig.
Gypsy Oil Co.'s No. 2 Cooper, C NW SE Sec. 23-24-36.
Swabbed 40 bbls. oil and 450 water in 24 hrs.; T.D. 3,532 ft.

Eunice Area

In the Eunice area in Lea County Jim Murray completed No. 1 Wallace, 2,970 feet from south and 330 feet from west lines of SW ¼ Section 3-21-36. It flowed 1,200 bbls. of oil and 300,000 feet of gas in 24 hours from pay at 3,825-75 feet which had been given two 3,000-gallon acid treatments.

Gypsy Oil Co.'s No. 1 Janda, C SE SE Section 20-21-36, was good for 500 bbls. naturally and 750,000 feet of gas at 3,852-3,914 feet. It was completed.

Texas Pacific Coal & Oil Co.'s No. 1 State, 1,974 feet from west and 660 feet from south lines of Section 9-22-36, was acidized with 3,000 gallons at 3,812-35 feet and flowed 720 bbls. of oil and 10,000,000 feet of gas.
Atlantic Oil Producing Co.'s No. 1 State H, C SW NE Sec. 5-21-36.
Running 5½-in. casing. T.D. 3,803 ft.
Gypsy Oil Co.'s No. 5 Ball-Ramsey-State, C SW SW Sec. 4-21-36.
Drlg. 3,540 ft.
Sun Oil Co.'s No. 1 Record, C NW NW Sec. 22-22s-36e.
Shot with 350 qts. 3,700-3,844 ft., flowed 15-bbl. head in 3 mins.
R. Olsen's No. 2 State, C NE SE Sec. 5-21-36.
Drlg. 3,810 ft.
Shell Pet. Corp.'s No. 2 Coleman, C NE SE Sec. 17-21-36.
T.D. 3,961 ft.; swabbed 15 bbls. per hr.
Empire Gas & Fuel Co.'s No. 1 State D, C NW NE Sec. 32-21-36.
T.D. 3,890 ft.; 2,300 ft. of oil in hole. Acidizing.
Empire Gas & Fuel Co.'s No. 2 State C, C SW SW Sec. 16-21-36.
Fishing for drill pipe. T.D. 3,647 ft.
Continental Oil Co.'s No. 3-A-18 Meyer, NE NE SE Sec. 18-21-36.
Drlg. 3,520 ft.
Continental Oil Co.'s No. 3-A-18 Lockhart, C NE SW Sec. 18-21-36.
Drlg. 3,290 ft.
Sun Oil Co.'s No. 1 Adkins, 1,786 ft. from S and 466 ft. from W lines Sec. 3-21-36.
Location.
Atlantic Oil Producing Co.'s No. 2 State E, C NW SW Sec. 5-21-36.
Drlg. 250 ft.
Gypsy Oil Co.'s No. 1 North-Bell-State, C SE SE Sec. 6-21-36.
Rigging up rotary.
Humble Oil & Ref. Co.'s No. 1 Adkins, C SW SW Sec. 10-21-36.
Rig.
California Co.'s No. 3 Meredith, C NE SE Sec. 19-21-36.
Drlg. 3,450 ft.
Humble Oil & Ref. Co.'s No. 6 State B, C NE NE Sec. 29-21-36.
Drlg. 3,378 ft.
General Crude Oil Co.'s No. 1 State, C NW SW Sec. 32-21-36.
T.D. 70 ft.; moving in material to deepen.

Jal Area

Harry Leonard's No. 1-B Justice, SW NW NW Sec. 20-25-37.
T.D. 3,595 ft.; drlg. plug.
Phillips Pet. Co.'s No. 1 Woolworth, Blk. 2, C SW SW Sec. 6-25s-37e.
T.D. 3,440 ft.; acidized; flowed 55 bbls. oil, 33 bbls. water and 1,750,000 ft. gas in 24 hrs. Waiting for storage.
Byrd-Frost, Inc.'s No. 2 Wills A, 2,310 ft. from N and E lines, Sec. 12-25-36.
Showed oil and gas at 3,310-20 ft.; T.D.

Monument Area

Shell Petroleum Corp. completed No. 1 State-B, C SW NW Section 36-19-36, in the Monument Field. It flowed 1,680 bbls. in 24 hours after it had been twice acidized with 2,000 and 6,000 gallons.

Barnsdall Oil Co. was getting ready to test No. 1 Alaska Cooper, C NE NE Section 12-20-36.

Jeffers Oil Co.'s No. 1 Britt, C SE NW Sec. 7-26-37.
Fishing for pin. T.D. 2,626 ft.
Republic Prod. Co.'s No. 1 Selby & Mavesty, C SE SW Sec. 36-19-36.
Drlg. 827 ft.
Sun Oil Co.'s No. 3 Weir, C SE NE Sec. 35-19-36.
Drlg. 1,040 ft.
Texas Co.'s No. 1 State E, C SW SW Sec. 1-20-36.
Drlg. 940 ft.
Gypsy Oil Co.'s No. 1 South Graham-State, C SE SE Sec. 2-20-36.
Drlg. 1,620 ft.
Superior Oil Co.'s No. 2 State, C NW NE Sec. 2-20-36.
Drlg. 980 ft.
Barnsdall Oil Co.'s No. 1 Alaska Cooper, C NE NE Sec. 12-20-36.
Set 9⅝-in. casing at 2,300 ft.

Eddy County

Fred Brainerd's No. 1 Featherstone, CEL SW SW Sec. 35-16s-28e.
S.D. for tools, 895 ft.
R. D. Compson's No. 6 Mann, NW SW NE Sec. 4-18s-27e.
Drlg. 1,252 ft.
Dooley & Shank's No. 1 McClay, C NE SE Sec. 33-18s-30e.
2,000 ft. sulphur wtr. in hole at 3,556 ft.; S.D.
Dooley et al's No. 1 Commerce Trust, NW NE SW Sec. 8-20s-27e.
Drlg. in sand at 999 ft.
Etz Bros.' No. 1 State, C SE SW Sec. 16-17s-30e.
Drlg. 2,070 ft.; showing 1,000,000 ft. of gas.
Flynn, Welch & Yates' No. 70 State, C NE NW Sec. 27-18-28.
May shoot; 1,000 ft. oil in hole at 2,812 ft.; tubing to test.
Getty Oil Co.'s No. 7 Dooley, SW SW NW Sec. 24-20s-29e.
Drlg. 6,466 ft.
Red Lake Oil Co.'s No. 5 State, NW NW NE Sec. 27-17s-28e.
S.D. 180 ft.

Sandoval County

Continental Oil Co.'s No. 1 L-Ranch, 2,010 ft. from N and 330 ft. from E lines, Sec. 2-13-14w.
Drlg. 4,825 ft.

Chaves County

Comanche Drlg. Co.'s No. 2 Sloop-Purcell C NE NE Sec. 15-11s-26.
Location.
John Tannehill's No. 1 Campbell, NE SE NE Sec. 1-11s-25.
Run 6⅝-in. casing. T.D. 1,064 ft.
Warman Oil Trust's No. 1 Weldon & Hoaf, NW NW SE Sec. 9-14-25.
T.D. 1,683 ft. in sand; P. B. to 1,395 ft.; S.D.

Rocky Mountain Runs

Production estimates for week ended October 5:

WYOMING

	Bbls.
Salt Creek	16,920
Big Muddy	1,540
Badger Basin	40
Black Mountain	240
Byron	670
Dallas Derby	640
Dutton Creek	70
Elk Basin	620
Ferris	40
Frannie	900
Garland	850
Grass Creek	2,430
Greybull	10
Hamilton Dome	2,600
Hudson	310
LaBarge	1,580
Lance Creek	2,840
Lost Soldier	1,450
Mule Creek	shut in
Midway	60
Notches	shut in
Oregon Basin	3,690
Osage	660
Pilot Butte	30
Rex Lake	shut in
Rock River	1,560
South Casper	shut in
Poison Spider	210
Teapot	20
Waugh Dome	370
Total Wyoming	40,340

MONTANA

Buckley-Border	210
Cat Creek	810
Cut Bank	6,890
Dry Creek	60
Kevin-Sunburst	3,540
Lake Basin	50
Pondera	1,110
Total Montana	12,670

COLORADO

Florence	140
Fort Collins and Wellington	370
Ilex Dome	3,160
Moffat	460
Orchard	50
Rangely	90
Tow Creek	160
Total Colorado	4,430

NEW MEXICO

Artesia	640
Cooper area	7,900
Eunice area	9,570
Hobbs	29,340
Hogback	200
Hospah	shut in
Jal	4,180
Lea area	1,350
Maljamar	1,920
Monument	410
Rattlesnake	750
Table Mesa	80
Total New Mexico	56,240
Total Rocky Mountain region	113,680

Chicago Markets

CHICAGO, Oct. 6.—Despite indications of a little more gasoline being offered in this area in the last few days, ruling prices are about unchanged in the tank car gasoline market. Following a September of excellent gallonage, early October consumption appears also to be reaching gratifyingly high levels.

With the tank car prices holding at around the highs of the year, tank wagon and service station markets have reflected more stability than in some time, although most of the recently established low prices in larger cities remain in effect. This is in spite of efforts being made constantly to iron out price troubles and to restore, if possible, some of the normals. "Under-canopy" cuts and concessions of various kinds are still giving trouble.

Jobbers are sending along orders on their contracts briskly. Actual spot buying has not been very active in gasoline, except from those refiners who are buying to replenish their depleted stocks. A few more offerings have been reported here in the last few days from East Texas, although understanding here is that that field is still being subjected to rigorous control. From Michigan comes the report that an increased amount of material of somewhat better octane rating may be available there soon.

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

Corsicana (heavy) (June 17, 1933) .... .80
East Texas $1.00
Other fields .....(See gravity table)

West Texas

Crane Upton, Crockett, Howard, Glasscock, Mitchell (Sept. 29, 1933).$ .70
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933) ..... .75
Pecos County, Yates shallow Pool (Sept. 29, 1933)* ..... .65
Jones and Fisher Counties* .....
.....(See gravity table)

Rocky Mountain States

Iles, light (Sept. 29, 1933) .....$ .96
Iles, heavy (Sept. 29, 1933. ..... .90
Florence, Colo. (June 17, 1933) ..... .90
Fort Collins and Wellington, Colo., (June 17) .....(See Salt Creek prices)

Big Muddy (Sept. 29, 1933) $1.01
Frannie, light (May 1, 1934) ..... .70
Frannie, heavy (Sept. 29, 1933) ..... .62
Salt Creek and LaBarge (Sept. 29, 1933) .....
(See Stanolind Mid-Continent price schedule)
Grass Creek, light (Sept. 29, 1933)...$1.18
Grass Creek, heavy (Sept. 29, 1933)... .62
Elk Basin (Sept. 29, 1933) 1.18
Rock Creek (Sept. 29, 1933) 1.02
Lance Creek (Dec. 16, 1932) ..... .92
Hudson (June 2, 1931) ..... .65
Lost Soldier (Sept. 30, 1933) ..... .85
Hamilton Dome, all grades (Feb. 16, 1935) ..... .57
Torchlight (Sept. 29, 1933) 1.18
Greybull (Sept. 29, 1933) 1.18
Pondera (Sept. 29, 1933) 1.25
Sunburst (July 19, 1935) 1.20
Cat Creek, Montana 1.07
Hogback (Sept. 29, 1933) 1.11
Lea County, N. Mex. (Sept. 29, 1933).. .75
Maljamar (Sept. 29, 1933) ..... .70
Artesia-Jackson (Dec. 1, 1933) ..... .75

Gulf Coast

Grade A and Grade B specification discontinued by leading buyers.
.....(See gravity table)
Hardin (Aug. 8, 1935) ..... $.93
Tomball (see note)* 1.15
Livingston (Sept. 29, 1933)† 1.00
Cleveland (Jan. 11, 1934) 1.00
Greta (June 29, 1935) ..... .80
Refugio, light .....(See gravity table)
Refugio, heavy (June 29, 1935)‡ .... .80
Conroe.....(See Conroe gravity table)
Markham and High Island .....
.....(See Gulf Coast gravity table)
Bosco, La. (Jan. 18, 1935)§ .....$ .90

Anahuac and Dickinson posted by Humble August 20, 1935, price of 94 cents per barrel on 30-30.9 gravity with 2 cents per degree increase with top 40 gravity $1.14.

Note—Tomball, effective September 29, by Humble Oil & Refining Co. and October 2 by Magnolia Petroleum Co., and November 10 by Stanolind Crude Oil Purchasing Co.

*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy by Humble Oil & Refining Co. Cleveland and Hardin posted by Magnolia Petroleum Co. §Bosco posted by Pure Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades) .....$ .70
Tullos, Urania, La. (Jan. 13, 1934).... .87
Nevada, Ark. (Sept. 29, 1933) ..... .60
East El Dorado (Sept. 29, 1933) ..... .70
Converse, La. (Mar. 17, 1934) 1.03
Elm Grove, La. (Sept. 29, 1933) ..... .75
Holly, La. (Nov. 17, 1934) 1.03
Pleasant Hill, La. (Mar. 17, 1934) ... 1.03
Zwolle, La. (Mar. 17, 1934) 1.03
Champagnolle, Ark. (Mar. 17, 1934) .. .81
Lisbon, Ark. (Mar. 17, 1934) 1.03
Stephens, Ark. (Sept. 29, 1933) ..... .70
Urbana, Ark. (Mar. 17, 1934) ..... .60
Other fields .....(See gravity table)

Middle Western States

OHIO OIL CO.

Lima (Feb. 1, 1935) $1.15
Illinois (Jan. 5, 1934) 1.13
Princeton, Ind. (Jan. 5, 1934) 1.13
Plymouth .....Shut in
Midland, Mich. (Sept. 30, 1933)* $1.02
West Branch, Mich. ..... .86
Oceana, Mich. (Oct. 5, 1933) ..... .90
Somerset, Ky. (May 20, 1935) 1.13
Western Kentucky (May 22, 1935) ... 1.13

*Posted by Pure Oil Co. and Simrall Pipe Line Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted prices. West Branch, Mich., posted by Simrall Pipe Line Co. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted prices includes premium. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

South Central and Southwest Texas

Darst Creek .....$ .87
Mirando (June 29, 1935) ..... .75
Luling (Sept. 29, 1933) ..... .75
Pettus 1.05
Salt Flat ..... .87
Lytton Springs (Sept. 29, 1933) ..... .95
Duval County (June 29, 1935) ..... .75
Saxet (June 29, 1935) ..... .80
Port Lavaca (July 1, 1935) ..... .80

Eastern States

TIDE WATER PIPE CO.
(Effective July 16, 1935)
Bradford, Pa. $1.95
Allegany, N. Y. 1.95
SOUTH PENN OIL CO.
(Effective July 16, 1935)
Pennsylvania Grade Oil in National Transit Lines (Bradford Field) $1.93
Pennsylvania Grade Oil in Southwest Pennsylvania Lines (Sept. 6, 1935).. 1.72
Pennsylvania Grade Oil in Eureka Pipe Line lines 1.62
Pennsylvania Grade Oil in Buckeye Pipe Line lines 1.52
Corning Grade Oil in Buckeye Pipe Line Co.'s lines 1.32
PENNZOIL CO.
(Effective July 16, 1935)
Pennsylvania Grade Oil in National Transit Lines:
Group A $1.92
Includes Cochran, Franklin, Hamilton and Doolittle districts.
Group B 1.91
Includes Titusville district.
Group C 1.90
Includes Turkey and Tidioute districts.
Group D 1.89
Includes Bear Creek and Porkey districts.
Group E 1.86
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacey and Kinsua districts.
Price depends on length of pipe line haul to plant at Oil City.
PURE OIL CO.
(Effective July 16, 1935)
Cabin Creek, W. Va. $1.62
Bradford Hollow, W. Va. 1.62
Kelly Creek, W. Va. 1.62

Canada

Ontario (Sept. 9, 1933):
Petrolia* $2.10
Oil Springs 2.17
Turner Valley (May 21, 1934):†
Clear naphtha 2.55
Discolored naphtha 2.37
Crude oil, 50 gravity 2.19
Crude oil, 45 to 49.9 ..... 2.07
Crude oil, 40 to 44.9 ..... 1.50

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco* .....$.885

*F.o.b. ship, based on August transactions and exclusive of production and export taxes and bar dues.

Crude Prices by Gravities

Gravity—	Oklahoma and Kansas 1	North Texas, Central Texas and East Central Texas 2	North Louisiana and Arkansas 3	Gray County, Texas 4	Carson, Hutchinson and Moore Counties, Texas 5	Conroe, Texas 6	Salt Creek, Wyo. 7	Gulf Coast, Texas and Louisiana 8	Gulf Coast, Texas and Louisiana 9	Cotton Valley, Louisiana 10
Below 20	....	....	....	....	....	....	....	$.82	$.82	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.78
Below 29	.84	$.79	$.79	....	....	....	$.84	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.05	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.90
Below 35	....	....	....	$.79	$.69	....	....	....	....	....
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.12	1.09	.92
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	1.02

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO. OF CALIFORNIA

For current purchases of crude oil at the well in California (unless otherwise specified). All gravities above those quoted take lowest price offered in that field. Standard Oil Co. prices effective August 29, 1935, and Union Oil Co. prices August 30, 1935.

Gravity—	Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canon	Athens, Rosecrans, Domingues	Elwood Terrace	Torrance	Richfield	Kettleman Hills	Whittier, La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall, McKittrick, Kern River	Mountain View	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	East Coyote	Santa Paula	Orcutt
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	....	$.65	$.65	....	$.65	$.65	$.65	....	$.57	$.57	$.57	$.57	$.57	$.57	$.65	$.57	....
15-15.9	.65	.65	.63	.62	.61	.63	....	....	.63	.63	....	.63	.63	.63	....	.57	.57	.57	.57	.57	.57	.63	.57	....
16-16.9	.63	.63	.61	.61	.59	.61	....	....	.61	.61	....	.61	.61	.61	....	.57	.57	.57	.57	.57	.57	.61	.57	$.57
17-17.9	.61	.61	.59	.59	.55	.59	....	....	.59	.59	....	.59	.59	.60	....	.57	.57	.57	.57	.57	.57	.59	.57	.57
18-18.9	.60	.60	.57	.57	.52	.57	....	....	.58	.57	....	.57	.58	.59	....	.57	.57	.57	.57	.57	.57	.57	.57	.57
19-19.9	.58	.58	.55	.56	.49	.54	....	....	.57	.56	....	.55	.57	.58	....	.57	.57	.57	.57	.56	.56	.55	.57	.56
20-20.9	.57	.57	.53	.55	.46	.55	....	....	.56	.55	....	.54	.56	.57	....	....	.57	.57	.57	.55	.55	.54	.56	.55
21-21.9	.56	.56	.52	.54	.43	.54	....	....	.55	.54	....	.53	.55	.56	$.57	....	.56	.56	.56	.54	.54	.53	.55	.54
22-22.9	.55	.55	.51	.53	.40	.53	....	....	.54	.53	....	.52	.54	.55	.56	....	.56	.56	.56	.53	.53	.52	.54	.53
23-23.9	.54	.54	.50	.52	.39	.52	$.55	....	.53	.52	....	.51	.53	.54	.55	....	.55	.55	.55	.52	.52	.51	.53	.52
24-24.9	.53	.53	.49	.51	.38	.51	.54	....	.53	.51	....	.50	.52	.53	.54	....	.54	.55	.54	.51	.51	.50	.52	.51
25-25.9	.52	.52	.48	.50	.37	.50	.53	....	.51	.50	....	....	.51	.52	.54	....	.53	.54	.54	.50	.50	....	.51	.50
26-26.9	.51	.51	.47	.49	.36	.49	.52	....	.50	.49	....	....	.50	.51	.53	....	.53	.53	.53	....	....	....	.50	....
27-27.9	.50	.50	.46	.48	....	.48	.51	....	....	.48	....	....	....	.50	.52	....	.51	.52	.53	....	....	....	.49	....
28-28.9	.49	.49	.45	.47	....	.47	.50	....	....	.47	....	....	....	.49	.51	....	.50	.51	.52	....	....	....	.48	....
29-29.9	.48	.48	.44	.46	....	....	.48	....	....	.46	....	....	....	.48	.50	....	.49	.50	.51	....	....	....	.47	....
30-30.9	.47	.47	.43	.45	....	....	.46	....	....	....	....	....	....	.47	.49	....	.48	.49	.50	....	....	....	.46	....
31-31.9	.46	....	....	.44	....	....	.45	....	....	....	....	....	....	.46	.48	....	.47	.48	....	....	....	....	....	....
32-32.9	....	....	....	.43	....	....	.44	....	....	....	....	....	....	.45	.47	....	.46	.47	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	$.50	....	....	$.62	....	....	.44	.46	....	.45	.46	....	....	....	....	....	....
34-34.9	....	....	....	....	....	....	....	.49	....	....	.61	....	....	.43	.45	....	....	....	....	....	....	....	....	....
35-35.9	....	....	....	....	....	....	....	.48	....	....	.60	....	....	....	.44	....	....	....	....	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	.47	....	....	.59	....	....	....	.43	....	....	....	....	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	.46	....	....	.58	....	....	....	.42	....	....	....	....	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	.57	....	....	....	.41	....	....	....	....	....	....	....	....	....
39-39.9	....	....	....	....	....	....	....	....	....	....	.56	....	....	....	....	....	....	....	....	....	....	....	....	....

East Coyote, Santa Paula and Orcutt prices posted by Union Oil Co. Playa Del Rey prices subject to 5-cent gathering charge. Elwood Terrace prices f.o.b. ship. Union Oil Co. pays 52 cents for 11-13.9 gravity oil in Coalinga, Kern River, Mount Poso, McKittrick, Midway-Sunset, Elk Hills and Buena Vista Hills.

PERSONAL

J. A. CUMMIN, Mid-Continent manager for Dowell Incorporated, located at Wichita, Kans., has returned from a three-week combination business and vacation trip to Wyoming, Montana and Alberta, Canada.

JOHN D. ROCKEFELLER, SR., will leave Lakewood, N. J., for his winter home at Ormond Beach, Fla., this week. The elder Rockefeller has been at Lakewood since June 14. He will be accompanied to Florida by his son, JOHN D. ROCKEFELLER, JR., and his daughter, MRS. A. PARMALEE PRENTICE.

W. R. LANGE, who has been assistant manager of operations for the Standard Shipping Company, has been appointed assistant manager of the marine department of the Standard-Vacuum Oil Company, Far East subsidiary of the Standard Oil Company (New Jersey) and Socony-Vacuum Oil Company, Inc. Mr. Lange will go to Palembang, Dutch East Indies, to spend one year to perfect a marine organization for the operations of the company at that point.

M. C. GINTHER, independent operator of Houston, Tex., has returned from a vacation trip through the East.

E. L. ROLFS, with Crutcher, Rolfs & Cummings, Inc., at Houston, Tex., is on an extended business trip to the East.

DICK H. HEBERLING, sales manager for the Buda Company, is now located in the Tulsa office at 521 West Archer Street.

R. I. SIMON, superintendent of the Deer Creek operation of the Argo Oil Company in Oklahoma, was in Denver, Colo., this week on business.

D. C. RITCHIE, of Vancouver, British Columbia, visited Turner Valley and other Alberta fields in the interests of Pacific Coast investors.

WALLACE E. PRATT, vice president of the Humble Oil & Refining Company, was in Los Angeles recently looking over the California situation.

W. B. CASE, engineer for the Shell Union Oil Corporation, with offices in New York City, spent Monday of this week in Tulsa as part of an inspection tour of the Shell producing properties in the United States.

H. J. DUNCAN, supervisor at the U. S. Geological Survey office at Casper, Wyo., has returned to that city after an inspection trip to district offices at Denver, Colo., Farmington, N. Mex., and Salt Lake City, Utah.

L. A. WILLIFORD, Macmillan Petroleum Corporation; L. C. GLENDENNING, Union Oil Company; C. K. SLACK, General Petroleum Corporation; FRED VAILO, West Coast Refining Company, and R. L. MINKLER of the General Petroleum Corporation, were the speakers at the monthly meeting of the Los Angeles Petroleum Accountants Society.

WILLIAM KENNEDY, Medford, Mass., night superintendent of the Everett refinery of Colonial Beacon Oil Company, visited the Dionne quintuplets while on vacation recently in Ontario, Canada, and, he declares, was able to tell them apart.

PROF. NORMAN W. KRASE, of the chemical engineering department of the University of Illinois, Urbana, Ill., will be the speaker at a meeting of the petroleum group of the Oklahoma section of the American Chemical Society in Tulsa on the evening of October 12.

J. W. LARNER, of McAllen, Tex., geologist for Mexican Sinclair Petroleum Company, was forced by recent heavy rains to return to McAllen by horseback when inundated roads south of Victoria, Tampaulipas, prevented further progress toward Soto La Matina, where he planned to work. Drilling crews were shut off for several days from Mier Oil Company's No. 1 Mier Coal Company test in Share 72, Porcion 72, community of Mier, about 62 miles southwest of McAllen. The flooded Alamo River caused the delay.

C. E. MANION, assistant chief geologist for Superior Oil Producing Company at Houston, Tex., announced the arrival of a seven and one-half pound baby boy.

R. A. CATTELL, chief engineer, petroleum and natural gas division, U. S. Bureau of Mines, Washington, D. C., left for Washington last week after some time spent in Oklahoma.

R. W. MacKINNON, refinery superintendent for Imperial Oil, Ltd., at Fort Norman, returned recently to Edmonton by airplane after concluding the season's operations in the Fort Norman Field.

H. A. IRELAND, consulting geologist, Tulsa and Oklahoma City, Okla., was guest speaker before the first fall meeting of the Tulsa Geological Society on the evening of October 7. His subject was "The Use of Insoluble Residues for Correlation Work in Oklahoma."

HAROLD BYRD, independent operator of Dallas, Tex., has had a whole range of mountains east of the Everett Plateau, near the South Pole, named after him by his cousin, Rear Admiral Byrd, the explorer. Harold Byrd was one of the patrons of the Byrd Antarctic expedition and the range will be known as the Harold Byrd Mountains.

Oversees Three Plants

Chester F. Smith, vice president of the Standard Oil Company of New Jersey, is general manager of its three New Jersey refineries. During his more than 20 years with the Standard organization he has seen these plants expand all phases of their operations and add new processes until they now constitute the largest single operation of the oil refining industry. The three plants, located a few miles apart, are interconnected by pipe lines and are operated as one large refinery with a rated crude oil capacity of approximately 170,000 bbls. daily. The operations are complete, including the original commercial hydrogenation installation in this country, and the refinery output includes a large number of specialties as well as the usual petroleum products.

CHESTER F. SMITH

When Mr. Smith went to work at this refinery in 1913 following graduation as a mechanical engineer from the University of Pennsylvania, its capacity was small and the operations were simple compared to the involved processing of today; but it was one of the large refineries at that time.

Mr. Smith's first employment was in the Bayonne laboratory and two years later he was made superintendent of the case and can department. By 1922 he had become assistant to the general superintendent of the Bayonne refinery and six years later he was made manager of that plant. In 1931 he was made assistant general manager of the three New Jersey refineries. In 1933 he was promoted to his present position. Since that time he has been made general manager of refineries of the company in Parkersburg, W. Va.; Baltimore, Md.; and Charleston, S. C.

HARRY LEYENDECKER, chief scout for the Tide Water Oil Company at Houston, Tex., is the father of a 7-pound baby boy.

HOLLIS P. PORTER, consulting mechanical engineer, has opened an office at 212 Midco Building, Tulsa, to carry on his practice.

ARCH ROWAN, drilling contractor of Fort Worth, Tex., has returned from a hunting trip in the Big Horn Mountains of Wyoming.

CHARLES W. DINGMAN, of Calgary, Alberta, has taken over his new duties as director of the petroleum and natural gas branch of the Alberta Lands and Mines Department at Edmonton.

W. H. HANSOT has left New York City for Paris, France, where he will be advertising manager for the Vacuum Oil Company, S.A.F. He was formerly associated with the United States Rubber Company.

WORTH M. SAXON, production engineer of Gypsy Oil Company, Tulsa, has joined the Pure Oil Company, Chicago, Ill., as production engineer under R. H. CARR and will take over his new duties about October 15.

MERRY BROTHERS & PERINI, independent operators who have had headquarters at San Angelo, Tex., for the past two or three years, have moved to Abilene, Tex. The firm is composed of ED and HOWARD MERRY and BUD PERINI.

MERL ISRAELSKY, chief paleontologist for the United Gas Company, was elected president of the Houston Geological Society for the coming year. PHIL MARTIN, chief geologist for the Houston Oil Company, was elected vice president, and O. L. BRACE, consulting geologist, was elected secretary and treasurer.

PARAGRAPHS

DR. F. E. SANDERCOCK has returned to Calgary, Alberta, after inspecting operations on the Raven Oils' No. 1 test on the Watson structure in southern Alberta.

JAMES L. PEARSE, engineer with Lobitos Oilfields, Ltd., accompanied by MRS. PEARSE, left New York last week on the Grace liner Santa Inez for Peru where he is stationed.

EDGAR D. KLINGER, consulting geologist, has recently returned to his headquarters in San Angelo after completing an extended business trip to New York and Pennsylvania.

H. O. ARNOLD, consulting geologist, of Tulsa, recently visited Calgary, Alberta, en route to the Rockies, where he will spend some time on a hunting trip with JOHN PHILLIPS of Calgary.

ED MARSHALL and E. R. FRY have formed the Marshall & Fry Drilling Company and have opened an office in Mission, Tex. The new company will operate in Hidalgo and Starr Counties.

CLIFFORD MOOERS, president of the Shasta Oil Company at Houston, Tex., sailed from Galveston, Tex., the past week for a pleasure trip to Miami, Fla. He was accompanied by Mrs. Mooers.

C. H. FIDLER, scout for the Tide Water Oil Company in the East Texas district, has been transferred to the company's office at Houston, Tex.

H. M. FRITZ, geologist for Shell Petroleum Corporation, formerly located at Crowley, La., has been transferred to the company's offices at Houston, Tex.

CY REIGER and MRS. REIGER, Amarillo, Tex., attended the world series at Detroit, Mich. Mr. Reiger is a well known independent operator in the Panhandle.

FRANK DRANE, president, Fort Worth, Tex., and CHARLES H. JOHNSON, manager, Tulsa office, Drane Tank Company, made an extended tour of Texas recently.

WALTER C. TEAGLE, president of the Standard Oil Company (New Jersey), has been renominated by the New York State Bankers Association as a Class B director of the Federal Reserve Bank of New York.

G. W. WILLIAMSON, head of the violations department of the Texas Railroad Commission, Kilgore, has resigned from that position and organization. C. F. SULLIVANT has been appointed to fill the vacancy.

PELL W. FOSTER, vice chairman of the board of directors of the Foster Wheeler Corporation, has resigned but will continue as a director of the company. He has been succeeded by JOHN PRIMROSE, vice president of the company.

OLIVER WHITING, mill representative for South Chester Tube Company, who has been at his home at Marietta, Ohio, for the past few months recuperating from an attack of influenza and complications, has returned to Texas and will be located at Borger for a time.

M. T. RATHVON, field superintendent for the Argo Oil Company, with headquarters at Casper, Wyo., is visiting headquarters in Denver on company business.

MISS ELLEN SHAUNTY, librarian, U. S. Bureau of Mines Experiment Station, Bartlesville, Okla., assumed her duties October 1. Miss Shaunty is a graduate of Phillips University and University of Oklahoma, and formerly with the Enid, Okla., Carnegie Library.

R. T. HASLAM, general sales manager of Standard Oil Company of New Jersey and affiliated marketing companies, heads a group of the sales executives from the New York office which are making a trip through the company's marketing territories. Others in the party include J. E. SKEHAN, manager of wholesale sales; C. G. SHEFFIELD, manager of retail sales; J. A. DONAN, advertising manager; E. A. HOLBEIN, manager of tank car sales, and A. S. PAWLING, merchandising manager. The trip is being made in buses.

C. R. NICHOLS and R. L. MARSTON, of Sun Oil Company, have been transferred to McAllen, Tex., to take charge of the new field office.

EARL DARR, formerly located at Okmulgee, Okla., for Black, Sivalls & Bryson, Inc., has been transferred to Odessa, Tex., as a West Texas representative.

GERALD E. EDDY, formerly connected with the Mount Pleasant Field office of the Michigan department of conservation, has succeeded GEORGE D. LINDBERG as petroleum geologist of the department with headquarters in Lansing. E. A. NEWMAN also has been transferred from the West Branch, Mich., field office to Lansing as assistant petroleum geologist. T. S. KNAPP has been assigned from the Mount Pleasant office to West Branch and W. L. DAOUST will be in charge of both the Mount Pleasant and Ogemaw offices. The changes resulted when Mr. Lindberg resigned one month after succeeding DR. ROBERT B. NEWCOMB, formerly assistant state geologist, who resigned September 1 to enter private business.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

October 13, 1910

World crude oil production has increased 32½ per cent in three years, while world consumption of refined oil (mostly kerosene) has increased only 10.4 per cent.

A two-thirds interest in a 65-acre lease in the Bolivar Field, New York, containing twelve 1-bbl. wells sells for $6,000. James S. Turner was the purchaser.

A 20,000-bbl. well extends the Caddo Field, Louisiana, 1½ miles. It was drilled by the Producers Oil Co. (Texas Co.) in Section 3-20-16.

20 YEARS AGO

October 14, 1915

The Boynton Pool in Muskogee County, Oklahoma, is producing 12,000 bbls. per day.

The Coline Oil Co. disposes of its 240-acre productive holdings in the Healdton Pool to W. E. Hodges, vice president of the Santa Fe Railroad, for $1,000,000. The leases at this time produce 7,000 bbls. per day from 14 wells.

J. B. Farish scouts a part of the Gulf Coast Field for the Gulf Production Co., succeeding David Donoghue, who has been transferred to the Corpus Christi district.

10 YEARS AGO

October 15, 1925

The deepest well on the Gulf Coast is in the Orange district, at 5,867 feet.

The price of crude oil in the Mid-Continent ranges from $1.15 to $2.43 per barrel according to gravity, with 36 gravity crude selling at $1.79. Pennsylvania Grade oil prices range from $2.80 to $3.15. California oil is from 90 cents to $2.30 per barrel.

In the fields east of California there are 870 rigs up and 4,252 wells drilling. Oklahoma leads with 1,076 wells drilling.

E. B. HEORN, formerly connected with the Edwards Drilling Company as engineer, is now connected with the M. J. Lewis Company in the same capacity.

ROY NEWTON, superintendent of field operations for the Venezuela Gulf Oil Company, in Venezuela, is visiting headquarters of the company in the United States.

L. W. STORM, district geologist for the Sun Oil Company at Houston, Tex., has resigned and is now connected with the Schlumberger Electrical Prospecting Company.

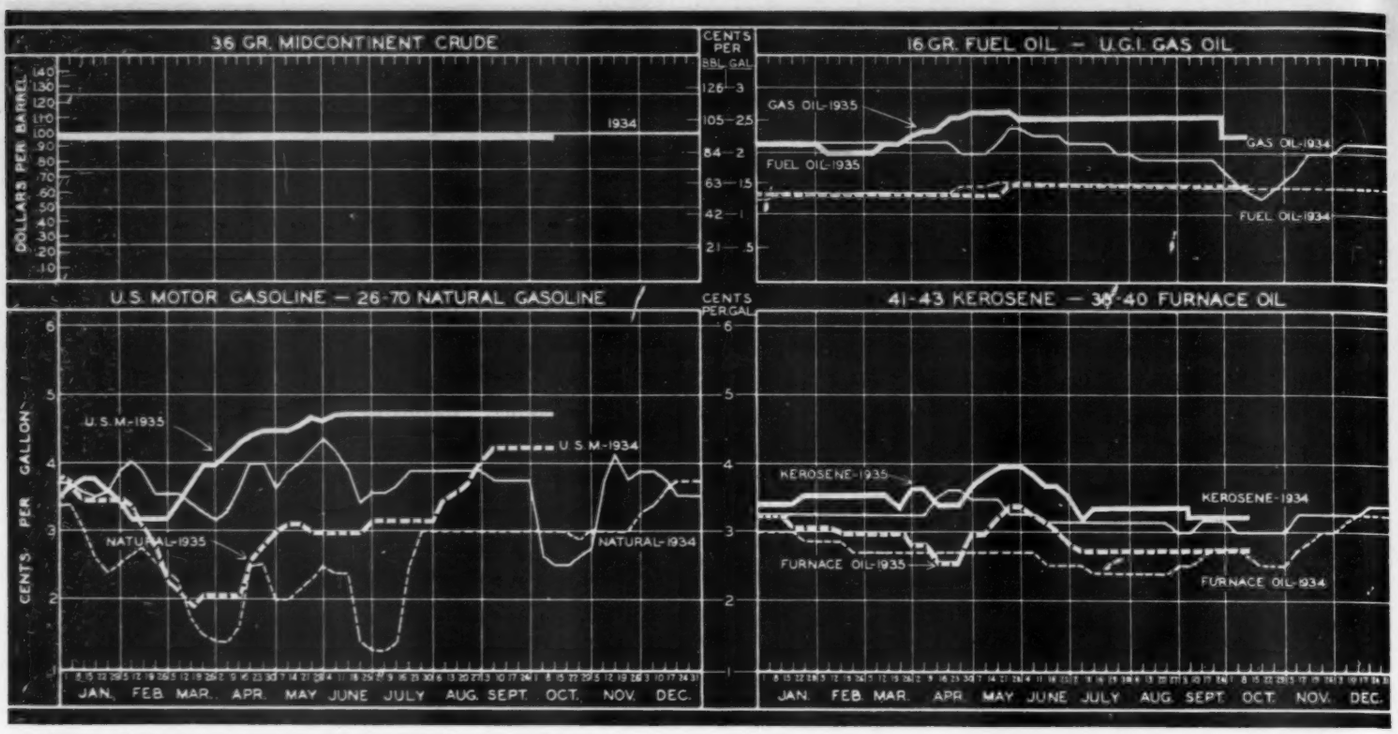
B. E. FOSTER, with the Pure Oil Company, has been transferred to Tulsa and promoted to the material department of the Southwest producing division of the company.

L. C. QUACKENBUSH, general sales manager of the Tide Water Oil Company, New York, and SAM SELTZER, vice president of the Royal Petroleum Company, returned last week from a week's fishing trip.

HAROLD HOOTS, of the Union Oil Company's geological department, has returned to the home office at Los Angeles, Calif., following a business trip to Wyoming and Dallas, Tex., where he attended a meeting of A.P.I. committees.

A. C. GALBRAITH, assistant vice president of the Union Oil Company, left Los Angeles, Calif., this week for a four weeks' business trip to survey the company's facilities in Panama, Canal Zone and surrounding territory.

EARL WAGY, of the Standard Oil Company, has returned to the home office of the company at San Francisco, Calif., following a business trip to Texas where he attended a committee meeting on petroleum economics held by the A.P.I.



More Confident Tone Seen in Group 3 Gasoline Market, With Stocks Low

By T. F. SMILEY

A more confident tone was perceptible in the Group 3 gasoline market this week as it contemplated its well-drained inventories and turned a satisfied eye upon the all-time high gallonage record established in the third quarter of 1935. Demand was firm and there was increasing evidence that Mid-Continent refiners, who benefited by sensible co-operation throughout the season of heaviest consumption, had no intention of abandoning this policy now. It was apparent that any unwieldly stocks accumulating in the tanks of small refiners without retail outlets were being absorbed by large integrated companies.

Buying Ends Uneasiness

A bit of uneasiness was manifested last week concerning surplus supplies reported in East Texas, but substantial buying orders soon corrected this situation. In view of the difficulty in obtaining federal tenders and of the number of plants in that district shut down for periodic repairs, it was declared to be within the range of possibility that actual scarcity of petroleum products available for interstate shipment would develop there.

Intercompany buying had cleaned up surplus stocks in the rest of the Mid-Continent just as effectively. Jobbers looking for bargains were reported to have been disappointed.

An impressive volume of inquiries for gasoline and other oil derivatives has been coming from abroad. If these inquiries are translated into orders and if export demand should step up quotations to a point which would make it possible for East Texas refiners to ship a larger percentage of their output abroad, still further strength will be imparted to the market.

Comment again has been stirred in the last few days by apparent symptoms of weakness in the market for low-octane material as indicated by Chicago tank car quotations on Group 3 basis. These quotations were under the current market. Efforts to find out where this motor fuel, if it existed, was coming from proved futile. The opinion generally expressed was that the offerings were fictitious, designed simply to disturb the market and cause a break in prices, and that if delivery were asked for it could not be made.

Refined Oil Market Barometer

Export inquiries, some of them developing into orders, are injecting a steadier tone into the refined market. The trade sees possibilities of a larger foreign business with countries whose own oil products are going largely to fill war needs. Though demoralized conditions in California continue, their importance as a threat to the market in other areas seems to be declining.

MID-CONTINENT. Gasoline steady. Naturals need buyers. Lubricants in good demand.

EAST COAST. Higher prices or firmer quotations resulting from export business.

GULF COAST. Market dull. Prices unchanged.

PENNSYLVANIA. Gasoline weak. All other products steady. Neutrals up.

CALIFORNIA. Gasoline slightly lower, but showing signs of strengthening.

CHICAGO. Gasoline quiet. Kerosene dull. Heating oils strong.

Collapse Failed to Appear

Declarations that a collapse in gasoline prices was imminent have been made for weeks by certain men in the trade. Various jobbers, taking these forecasts seriously, let their inventories run low, expecting to be able to replenish them soon at distress prices. But the predicted collapse did not appear. When jobbers asked a broker for some of the cheap gasoline he had said was just around the corner they were put off. Eventually some jobbers placed orders directly with refiners instead of through the broker who had proved such an inefficient prophet, thus adding to the latter's unhappiness.

California was occupying a position of diminishing importance as a market threat to the Mid-Continent and other areas. A few far western accounts were reported to have been damaged by bargain gasoline shipped from California by rail, but instead of throwing any part of the general market out of gear, this was offset largely by reducing runs at skimming plants whose production had been running into the spot market.

Export Orders Removing Stocks

Export orders for natural gasoline were cleaning up stocks of that material stored at the Gulf Coast, with the result that a slightly better feeling pervaded the market. Much buying for storage, some of it speculative, was done by independent manufacturers last August when the new gas conservation law in Texas became operative and natural gasoline plants in the Panhandle were forced to close down.

Most of these plants have reopened, however, under court injunctions, and the expected acute scarcity did not come to pass. Thus the material bought at rising prices in August and stored became something of a dilemma. The pickup in export business is looked upon as likely to get stored stocks out of the way.

Kerosene braced a little during the last week, but not enough to lift quotations. Higher prices are in prospect, however. Bright and steam-refined stocks and neutrals were in firm demand, and rising quotations in this group seemed probable. Wax better, with higher prices likely.

Slightly Higher Export Market Prices, but Eastern Domestic Marking Time

By C. O. WILLSON

NEW YORK, Oct. 7.—Export markets presented an improved appearance the past week with slightly higher prices on some products and firm quotations on the remainder. Following a number of inquiries late last week with spot sales of at least two cargoes Gulf Coast quotations on all grades of gasoline advanced one-eighth cent. The other advance applied to bright stocks and paraffin base neutrals. In this section 25 cold test bright stock of Pennsylvania Grade in barrels advanced to 25 cents per gallon with a 28½-cent price on 200-3 Pennsylvania neutral in barrels. There were similar advances in other grades of bright stocks and neutrals.

The two export cargoes were reported sold for prompt lifting at the Gulf for 4⅞ cents. This was for 64-66 375 endpoint material. It was predicted the low would be 5 cents before the end of the week. Some major factors quoted the latter price on inquiries received last week. Most inquiries for gasoline came from France. It is said French buyers are anxious to cover their immediate requirements and also arrange for material to be shipped during November and December.

In export circles it is believed at least part of this business is due to the inability of Rumanian sellers to make shipments on contracts. Rumanian refiners have been practically out of the spot gasoline market in Europe for several months. Their quotations which last year were the controlling factor in the European market, have been from 1 to 2 cents above the general market quoted by competitors basis the Gulf Coast. This was brought about by the heavy demand from Italy which gave Rumania the bulk of its enlarged requirements for all petroleum products. To supply this demand refiners in Rumania have been forced to curtail shipments to other European countries.

War Developments

This situation has become especially acute over the past month, due not only to the increased purchases of Italy but also a reflection of internal operating conditions in Rumania brought about by regulations in regard to employment of foreign labor, decrees forcing the purchase of supplies and equipment in Rumania and efforts to maintain a stable currency in the face of unfavorable conditions. The developments of the past week have served to stiffen the American market on gasoline and were it not for the unsettled domestic situation in the United States brought about largely by expanded operations in California, there would be an opportunity for prices to go higher.

On the unfavorable side is the fact domestic refiners of gasoline may have surplus supplies in the next few weeks and should this become acute offerings on the export market will increase and nullify the advantage of an enlarged foreign demand. There is the further danger Italy may curtail her purchases from Rumania or Rumania refuse to sell due to failure to obtain prompt payment as hinted in recent communications. Such a development presumably would cause Rumania to become a factor in the general European market again although this action might be deferred due to the internal situation. With the future still somewhat confused, sellers welcome the new business already placed and are hopeful for additional orders before the end of the month.

Export prices on other products for the most part are unchanged. In addition to the regular contract movement, apparently larger than any time this year, an occasional spot order for crude is closed at the Gulf.

Prices on East Texas crude at the Gulf range from $1.17 to $1.18 per barrel. Prices at the Gulf on gas oil for export are 3⅛ to 3¼ cents and bunker fuel in cargo lots is steady at 70 cents.

Domestic Market

The domestic tank car and barge market on practically all refined products in the eastern United States continues to mark time. The attitude of both buyers and sellers is that the market generally is "shaky" due largely to the uncertainty regarding the future trend in Mid-Continent crude and refinery products which is dependent on continuance of low prices in California. While waiting, refinery sales managers in this territory are not being forced to make any large concessions to maintain a normal movement of products. The firmness of the gasoline tank car market is interpreted favorably. The white grades of U. S. Motor range from 5¾ cents for low octane to 6¼ cents for highest octane. Major sellers report little shading in spot sales. At least two large companies are continuing to buy cargo material at the Gulf for coastwise shipment and this has aided in maintaining firm domestic prices along the seaboard. It is not believed actual movement of the low priced California material to eastern markets will take place for at least another month and possibly not until the end of the year. This prediction assumes a continuance of the low crude schedules in California and the large production which will result in low priced material being offered outside its normal marketing territories.

Efforts are being made to correct the retail situation where prices are from 1 to 4 cents below what is considered normal. The third grade tank car price was advanced one-fourth cent at Boston last week but, so far, points like Buffalo, Portland, and Syracuse continue below normal. Various explanations are offered. One sales manager whose company operates in these cities says the trouble lies in the guaranteed margin to jobbers and dealers on gasoline sales with major sellers as guilty in making these agreements as the major independents. One helpful factor lies in the steady Gulf market on coastwise shipments. Prices at the Gulf for the white grade range from 5¼ to 5½ cents depending on octane number. It is maintained that if these prices continue firm the situation in dealer and retail markets will improve because refiners and water terminal operators cannot afford to maintain indefinitely the guarantees which result in net returns at their plants below the tank car market.

Kerosene, Furnace Oil

No special changes are reported in kerosene and furnace oil markets. There has been a seasonal increase in demand and sellers had hoped a tight market would develop not later than October 1. So far, supplies are adequate and it continues a buyers' market. Kerosene and No. 1 furnace oil is selling at 4⅝ to 4¾ cents in New York harbor, No. 2 furnace oil 3⅞ to 4 cents and No. 4 3½ to 3⅝ cents.

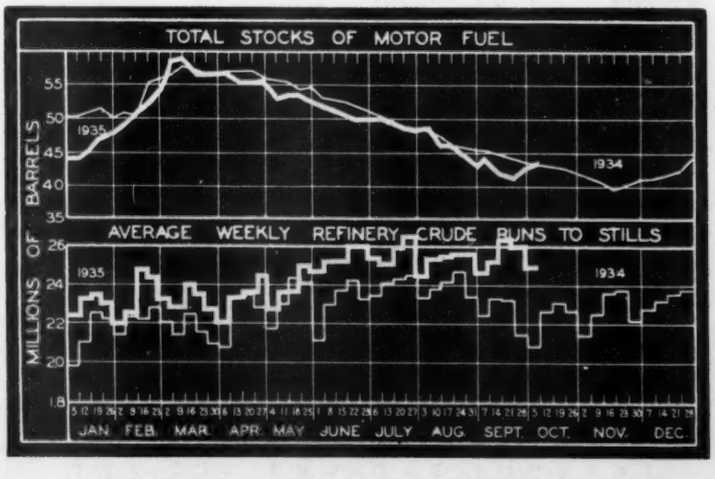
In the heavy fuels Bunker C is unchanged at 95 cents to the marine trade and 28-30 Diesel is $1.65 per barrel. The demand is reported "normal" for this season.

Several exporters have advanced their price on Pennsylvania bright stock to 25 cents and Pennsylvania 200-3 neutral to 28½ cents. The domestic demand continues dull.

A. P. I. Weekly Refinery Statistics

Week Ending October 5, 1935

	Capacity reporting per cent	Daily crude runs (bbls.)	Finished motor fuel (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	517,000	13,596,000	13,528,000
Appalachian	94.8	99,000	1,761,000	933,000
Indiana, Illinois, Kentucky	95.9	329,000	7,516,000	4,642,000
Oklahoma, Kansas, Missouri	84.8	254,000	4,134,000	4,842,000
Inland Texas	48.5	85,000	1,088,000	1,555,000
Texas Gulf	96.4	527,000	5,101,000	11,893,000
Louisiana Gulf	96.4	122,000	950,000	4,614,000
North Louisiana and Arkansas	90.0	41,000	324,000	463,000
Rocky Mountains	61.9	41,000	545,000	792,000
California	92.6	504,000	8,357,000	65,754,000
Total United States	89.5	2,519,000	43,372,000	109,016,000



Welding Men to Meet

The thirty-sixth annual convention of the International Acetylene Association will be held in Cleveland, Ohio, November 12 to 15, inclusive, in the Hotel Cleveland. Well-known engineers will discuss new developments in oxy-acetylene applications. Last year's attendance of 3,500 is expected to be broken.

RETAIL OIL MARKETS

Tank wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of October 8, 1935

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Chicago	15.5	16.0	4.0	9.5
Decatur, Ill.	15.5	16.5	4.0	9.5
E. St. Louis	15.2	17.2	4.0	9.5
Joliet	15.5	16.0	4.0	9.5
Peoria	15.5	15.5	4.0	9.5
Quincy	15.3	17.3	4.0	9.5
Davenport, Ia.	15.5	(†)	4.0	9.5
Des Moines	15.2	(†)	4.0	9.5
Mason City	15.7	(†)	4.0	10.0
Sioux City	15.5	(†)	4.0	9.5
Duluth, Minn.	16.3	18.3	4.0	10.6
Mankato	15.9	17.9	4.0	10.2
Minneapolis	15.9	17.9	4.0	10.2
LaCrosse, Wis.	16.0	18.0	5.0	10.2
Green Bay	17.2	19.2	5.0	10.6
Milwaukee	15.3	16.8	5.0	10.1
Madison	16.9	18.9	5.0	10.2
Detroit, Mich.	13.5	15.5	4.0	9.3
Grand Rapids	15.6	17.6	4.0	9.8
Saginaw	16.1	18.1	4.0	9.3
Evansville, Ind.	17.3	19.3	5.0	10.3
Indianapolis	17.4	19.4	5.0	10.6
South Bend	17.6	19.6	5.0	12.0
Fargo, N. Dak.	16.9	18.9	4.0	11.2
Huron, S. Dak.	17.4	19.4	5.0	10.7
Sioux Falls	16.9	18.9	5.0	10.2
Kan. City, Mo.*	12.9	14.9	4.0	7.0
Springfield	14.6	16.6	4.0	8.9
St. Louis	15.2	17.2	3.5	9.5
St. Joseph*	14.9	16.9	4.0	9.2
Wichita, Kans.	14.4	16.4	4.0	8.8
Bartlesville, Ok.	16.0	18.0	5.0	8.8

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

†Standard Oil Co. (Indiana) has leased all service stations in Iowa.

Discounts to dealers: Undivided accounts, 1¼ cents on premium and regular and 2¼ cents on third grade off service station prices; divided accounts one-half cent less than undivided. Discounts to dealers in metropolitan Chicago one-half cent larger than rest of Standard of Indiana territory, namely 4 cents and 3 cents on respective grades. Where prices are more than 1 cent below normal, the discounts are one-half cent less than above.

Stanolex Furnace Oil in Chicago

Effective June 27, 1935, f.o.b. Chicago tank wagon prices: Range oil, less than 100 gallons, 8.5 cents; 100-149 gallons, 7.5 cents; 150 gallons and more, 7.0 cents. No. 1 (36-40 R. stw. zero), less than 100 gallons, 8.5 cents; 100-149 gallons, 7.5 cents; 150 gallons or more, 7.0 cents; No. 2 (30-34, stw. zero), same prices and quantities as No. 1; No. 3 (23-26, zero), less than 150 gallons, 7.2 cents; 150 gallons or more, 6.2 cents. No. 4 (12-16 zero), less than 400 gallons, 7.2 cents; 400 gallons or more, 6.2 cents, viscosity of No. 4, 85° and 100° F.; No. 5, less than 400 gallons, 5⅝ cents; 400 gallons or more 4⅝ cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Denver, Colo.	18.6	20.0	5.0	11.0
Pueblo	18.0	20.0	5.0	13.0
Grand Junction	20.5	22.5	5.0	15.0
Casper, Wyo.	18.5	20.5	5.0	11.5
Cheyenne	18.5	20.5	5.0	13.0
Butte, Mont.	21.0	23.0	5.0	17.5
Billings	19.5	21.5	6.0	16.5
Helena	21.5	23.5	6.0	17.5
Great Falls	20.5	22.5	6.0	17.5
Salt Lake, Utah	19.0	21.0	5.0	16.0
Twin Falls, Ida.	23.0	25.0	6.5	18.0
Boise	22.5	24.5	6.0	18.0
Albu'que, N. M.	20.0	22.0	*6.5	13.0

*One-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Atlanta, Ga.	20.0	22.0	7.0	12.0
Augusta	20.0	22.0	7.0	14.0
Macon	20.0	22.0	7.0	13.0
Savannah	18.0	20.0	7.0	14.0
Birm'ham, Ala.	21.0	23.0	8.0	12.0
Mobile	19.0	21.0	8.0	10.0
Montgomery	22.0	24.0	8.0	13.5
Jackson, Miss.	19.0	21.0	7.0	11.0
Vicksburg	19.0	21.0	7.0	13.0
Jacksonville, Fla.	18.5	20.5	8.0	10.0
Miami	18.5	20.5	8.0	13.5
Pensacola	19.0	20.0	8.0	11.5
Tampa	18.5	20.5	8.0	11.0
Lexington, Ky.	19.5	21.5	6.0	10.0
Covington	18.0	20.0	6.0	11.5
Louisville	18.5	20.5	6.0	10.0
Paducah	18.5	20.5	6.0	10.0

In addition to the state tax of 6 cents Montgomery, Ala., has a county tax of 1 cent per gallon and a city tax of 1 cent per gallon on gasoline, and one-half cent per gallon on kerosene. Mobile and Birmingham, Ala., each have a city gasoline tax of 1 cent per gallon. Pensacola, Ala., has a city gasoline tax of 1 cent.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Dallas, Tex.	15.0	17.0	5.0	7.0
Fort Worth	15.0	17.0	5.0	7.0
Houston	16.0	18.0	5.0	8.0
San Antonio	16.0	18.0	5.0	8.0
El Paso	17.0	19.0	5.0	10.0
Muskogee, Ok.	16.0	18.0	5.0	8.0
Okla. City	16.0	18.0	5.0	8.0
Tulsa	16.0	18.0	5.0	8.0
Ft. Smith, Ark.	14.5	18.0	5.0	8.0
Little Rock	17.0	20.5	7.5	9.5
Texarkana	15.5	17.5	5.0	8.0

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Atl'tic City, N. J.	13.5	17.0	4.0	9.0
Newark	13.5	17.0	4.0	7.5
Annapolis, Md.	14.8	18.3	5.0	10.0
Baltimore	14.3	17.8	5.0	7.5
Cumberland	15.8	19.3	5.0	12.7
Wash'g'n, D. C.	12.3	15.8	3.0	9.0
Danville, Va.	16.6	20.1	6.0	12.9
Norfolk	15.1	18.6	6.0	11.3
Petersburg	15.8	19.3	6.0	11.7
Richmond	15.8	19.3	6.0	11.7
Roanoke	16.8	20.3	6.0	12.9
Charles'n, W. Va.	15.0	18.5	5.0	12.6
Parkersburg	14.3	17.8	5.0	11.2
Wheeling	15.5	19.0	5.0	12.2
Charlotte, N. C.	17.9	21.4	7.0	12.9
Hickory	18.2	21.7	7.0	13.1
Mt. Airy	18.2	21.7	7.0	13.2
Raleigh	17.6	21.1	7.0	13.7
Salisbury	18.0	21.5	7.0	13.0
Charleston, S. C.	16.2	19.7	7.0	11.2
Columbia	17.5	21.0	7.0	12.6
Spartanburg	17.9	21.4	7.0	12.9

Tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Omaha	16.9	18.9	5.0	10.1
McCook	17.6	19.6	5.0	10.5
Norfolk	17.3	19.3	5.0	10.6
North Platte	17.7	19.7	5.0	10.9
Scottsbluff	18.4	20.4	5.0	11.6

Note: Discounts to dealers; where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2¾ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank wagon deliveries covered only by Standard Commercial Consumers Contract, effective January 1, 1935.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Ohio points	17.0	19.0	5.0	*12.5

*Includes state tax of 1 cent.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Philadelphia, Pa.	15.0	17.0	4.0	9.0
Pittsburgh	16.0	18.0	4.0	10.0
Allentown	15.5	17.5	4.0	9.0
Erie	15.0	17.0	4.0	8.0
Scranton	15.0	18.0	4.0	10.0
Altoona	16.0	18.0	4.0	10.0
Dover, Del.	15.5	17.5	4.0	10.0
Wilmington	15.5	16.5	4.0	9.0
Springf'd, Mass.	13.2	16.7	4.0	7.5
Worcester	13.3	16.8	4.0	7.5
Hartford, Conn.	12.8	15.8	3.0	7.0
New Haven	13.2	15.7	3.0	7.5
Providence, R. I.	12.0	13.5	3.0	7.0

Note—Tank wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
N. Orleans, La.	17.5	21.0	‡8.0	12.0
Baton Rouge	16.5	20.0	†7.0	11.5
Alexandria	17.5	21.0	†‡8.0	10.5
Lafayette	18.0	21.5	‡*8.0	12.5
Lake Charles	18.0	21.5	†‡8.0	†11.0
Shreveport	16.0	19.5	†7.0	9.0
Knoxville, Tenn.	20.0	23.5	8.0	14.0
Memphis	18.0	21.5	8.0	9.5
Chattanooga	19.5	23.0	8.0	11.5
Nashville	19.0	22.5	8.0	12.0
Bristol	17.85	20.6	8.0	14.5

*Includes city tax of 1 cent.

†Includes 1-cent parish tax. ‡Includes 2-cent parish tax.

Tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

New York and New England

SOCONY-VACUUM CO., INC.

	Gasoline Post deal	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Albany, N. Y.	14.2	17.7	5.0	7.5
*Met. New York	15.05	19.3	5.0	7.0
*Br'kl'n, Queens	14.8	18.8	5.0	7.0
Buffalo	12.0	14.0	5.0	8.0
Rochester	14.0	17.0	5.0	8.0
Syracuse	13.5	16.0	5.0	8.5
Boston, Mass.	13.0	16.5	4.0	6.75
Portland, Me.	13.5	16.0	5.0	7.5
Manch'ter, N. H.	14.8	18.3	5.0	7.75
Burlington, Vt.	16.2	19.7	5.0	8.5

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
San Francisco	14.0	16.0	4.0	11.5
Los Angeles	10.5	13.5	4.0	10.5
Fresno, Calif.	13.0	15.0	4.0	12.0
Phoenix, Ariz.	15.0	17.0	6.0	‡16.0
Reno, Nev.	16.5	18.5	5.0	13.0
Portland, Ore.	16.5	18.5	6.0	13.5
Seattle, Wash.	16.5	18.5	6.0	13.5
Tacoma	16.5	18.5	6.0	13.5
Spokane	19.5	21.5	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where discount is 1 cent.

‡Includes 5-cent state tax.

Canada*

Imperial 3-Star Gasoline
IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Hamilton, Ont.	22.0	25.0	6.0	17.5
Toronto, Ont.	22.0	25.0	6.0	17.5
Brandon, Man.	30.3	33.3	7.0	21.5
Winnipeg, Man.	28.7	31.7	7.0	20.3
Regina, Sask.	30.0	33.0	7.0	21.5
Saskatoon, Sask.	32.8	35.8	7.0	24.3
Edmonton, Alta.	32.2	35.2	7.0	23.7
Calgary, Alta.	29.5	32.5	7.0	21.0
Vancouver, B. C.	27.0	30.0	7.0	24.0
Montreal, Que.	20.5	23.0	6.0	17.0
St. John, N. B.	26.0	30.0	8.0	19.5
Halifax, N. S.	26.0	30.0	8.0	19.5

*Imperial gallon used in Canada.

In maritime provinces all dealers get 4 cents off service station price. In all other provinces open dealers get 3 cents off service station price and 1 cent additional to 100 per cent accounts, except Montreal City where open dealers get 2¼ cents off service station price with 1 cent additional to 100 per cent accounts.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Retail Price Changes

Standard Oil Co. of Kentucky September 23 advanced tank wagon and station gasoline 1.5 cents in Tampa; September 24 reduced tank wagon and station gasoline 1 cent in Mobile.

Standard Oil Co. of Louisiana September 28 reduced tank wagon kerosene 1.5 cents in Memphis.

Magnolia Petroleum Co. October 4 advanced tank wagon and station gasoline 1 cent in Houston.

Socony-Vacuum Co., Inc., October 4 reduced tank wagon kerosene .5 cent in Rochester.

Drilling in Alabama

Willis & Payne write from Eutaw, Ala., that they are drilling a well on the R. C. Lett land, in SW NE Section 6-21-2e, Greene County, Alabama. The hole is at a depth of 567 feet.

M. R. Bridgeman, acting representative of the Anglo-Iranian Oil Company, Ltd., in the United States, has returned to the New York offices of the company after spending the summer in England.

Statement of the Ownership, Management, Etc., of

THE OIL AND GAS JOURNAL

October 1, 1935

(This statement is published in compliance with the Act of August 24, 1912).

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Known bondholders, mortgagees and other security holders holding 1 per cent or more of the total amount of bonds, mortgages or other securities: None.

S. H. ROURKE,
Business Manager.

Sworn to and subscribed before me this 3rd day of October, 1935.

H. R. BARNETT,
Notary Public.

My commission expires October 3, 1937.

PRICES ON REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of October 8, 1935

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
Below 63 octane	.04¾	.04¾
63-70 octane	.05¾	.05¾
60-62 400 grade:		
Below 63 octane	.04¾	.04¾
63-70 octane	.05¾	.05¾
64-66 375	.04¾	.05
68-70 360	.05	.05½

NORTH TEXAS—

U. S. Motor grades:		
Below 63 octane	.04¾	.04¾
63-70 octane	.05¾	.05¾
60-62 400	.04¾	.04¾
64-66 375	.04¾	.05

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
Below 63 octane		.05½
63-70 octane		.06¼
60-62 400		.05½

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
Below 63 octane		.05½
63-70 octane		.06¼

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
Below 63 octane	.04¾	.04¾
63-70 octane	.05¾	.05¾
60-62 400	.04¾	.04¾
64-66 375	.04¾	.05
68-70 360	.05	.05½
Aviation fighting grade	.05¾	.06

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.05½
60-64.9 octane		.06½
65-70 octane		.06¾
64-66 375		.05¾
68-70 350		.05¾

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.03½	.05
58-60 400	.05	.06

EAST COAST—

U. S. Motor, below 60 octane:		
*New York (Bayonne)		.05¾
Baltimore		.05¾
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)		.06
Philadelphia		.06
Boston		.06
Baltimore		.06
Charleston, S. C.		.06
U. S. Motor, 65 and above:		
*New York (Bayonne)		.06¼
Philadelphia		.06¼
Boston		.06¼
Baltimore		.06¼
Charleston, S. C.		.06¼

*All grades of gasoline one-fourth cent less for small barge shipments.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane		.05
60-64.9 octane	.05¼	.05½
65 octane and higher		.05½

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)		.05
52-54 450 (blending)		.05
54-56 450 (blending)		.05½

CHICAGO (based on Group 3)—

50-52 450 (blending)	.04¾	.05
Cleaners' naphtha, 56-58 gr., 200 i.b.p., 20 e.p.	.06¾	.07
Lacquer diluent, 150 i.b.p., 250 e.p.	.07¼	.08
Lacquer diluent, 140 i.b.p., 200 e.p.	.08¾	.09
Rubber solvent, 68-70 gr., 100 i.b.p., 300 e.p.	.06¾	.07
Stoddard solvent, 300 i.b.p., 410 e.p., over 83° flash	.06¾	.06½
Pet. thinner, 200-300 i.b.p., 410 e.p., over 83° flash	.06¾	.06½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p., 330° e.p.	.06¾	.07
Petroleum spirits	.05¾	.06

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.04½
Grade 18-55	.04¾	.05
Low vapor pressure grade:		
*14 lb. v.p. (max.)	.05½	.05¾
*12 lb. v.p. (max.)	.05¾	.06

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70		.04¾

NORTH TEXAS—

Grade 26-70		.04
Grade 18-55	.04¾	.04¾
*14 lb. v.p. (max.)	.05¾	.05½
*12 lb. v.p. (max.)	.05¾	.05¾

CALIFORNIA—

75-85 375-390	.04½	.05½

*Nominal.

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03¼	.03½
42-44	.03¾	.03¾

NORTH TEXAS—

41-43		.03¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43		.03¾

ARKANSAS (Ark., N. La., Miss. del.)—

41-43		.03¾

PENNSYLVANIA (inland refineries)—

45	.04¾	.04¾
46	.04¾	.04¾
47	.04⅞	.05

CHICAGO (based on Group 3)—

41-43	.03¾	.03½
42-44	.03½	.03¾

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03¼	.03¾

NEW YORK (Bayonne, N. J.)—

41-43	.04¾	.04¾

GULF COAST (domestic)—

41-43	.04¼	.04½

Petroleum Coke

(Prices per ton f.o.b. Chicago area. Refineries absorb freight to 80 cents a ton.)

Pile run	6.00
Direct from still	7.00
Egg, nut, pea	8.00
Lump	8.75

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03¼	.03¾
No. 1 straw, 38-40	.03	.03½
No. 2 straw, 32-36	.02¾	.03¼
No. 2 dark, 32-36	.02¾	.03
No. 3, 28-32	.02¾	.02¾
No. 3, 15 and above, 28-32	.02½	.02¾

NORTH TEXAS—

No. 1 prime white, 38-42	.03¼	.03¾
No. 1 straw, 38-40	.03	.03¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36		.03¼

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36		.03½
No. 3, 28-32		.03¾

CHICAGO (based on Group 3)—

No. 1 prime white, 38-40	.03¼	.03¼
No. 1 straw, 38-40	.03	.03¼
No. 2 straw, 32-36	.02¾	.03
No. 2 dark, 32-36	.02¾	.02¾
No. 3, zero to 15, 28-32	.02¾	.02¾
No. 3, 15 and above, 28-32	.02¼	.02½

NEW YORK (Bayonne, N. J.)—

No. 1	.04¾	.04¾
No. 2	.03¾	.04
No. 4	.03¼	.03¾

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02¼	.02½
No. 4, 24-28	.87½	.90
No. 4, 15 and above, 24-28	.75	.80
No. 5	.70	.75
No. 6	.67½	.70
Below 18 fuel oil, industrial	.65	.67½

NORTH TEXAS—

U.G.I. gas oil	.02½	.02¾
No. 4, 24-28	.87½	.90
No. 5	.72½	.75
No. 6	.67½	.70
Below 18 fuel oil, industrial	.65	.67½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02¾	.02¾
10-14 fuel oil, industrial	.75	.80

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60	.65

CHICAGO (based on Group 3)—

U.G.I. gas oil	.02¼	.02¾
No. 4, 24-28	.87½	.90
No. 4, 15 and above, 24-28	.72½	.77½
No. 5, 18-22	.62½	.65
No. 6, 10-16	.52½	.55

Fuel oils of more than 40 cold test generally 5 to 15 cents per bbl. in these areas.

PENNSYLVANIA (inland refineries)—

36-40	.04	.04¼

CALIFORNIA—

Los Angeles:

30-34 gas oil, per bbl.	1.05	1.25
27 plus Diesel	1.05	1.25
27 plus Diesel (bunkers)	1.25	1.30
12-16 (bunkers at tidewater)	.87	.95
10-16 (cargo lots)	.80	.92
12-17 (tank cars)	.60	.95

San Joaquin Valley:

10-18 (tank cars)	.60	.75

San Francisco:

27 plus Diesel, per bbl.		1.25
27 plus Diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil		.03¼
28-30 Diesel (bunkers)		1.70
Bunker C (bulk cargoes)		.70
Bunker C (bunkers)		.80

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04
28-30 Diesel (lighterage 6½ plus per bbl.)		1.65
28-30 Diesel (tank cars)		.04
*Bunker C (to ocean-going ships in N. Y. harbor)		.95
Industrial fuel (tank cars)		.03½

*Lighterage charge 5c bbl. additional.

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.P.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:

150-3	.10
180-3	.11¼
180-4	.10¾
200-3	.11¾
200-4	.11¼
240-3	.13¾
240-4	.13¼
280-3	.14¾
280-4	.14
300-3½	.15¼
400-3½	.16
100-2 paraffin oil	.05¾

15-20 Cold Test:

200-3	.10¾
200-4	.10¼
240-3	.12¾
240-4	.12¼
280-3	.13¾
280-4	.13

GULF COAST—

Pale Oils:

200-3	.07	.07½
300-3	.07½	.08
500-3½	.08½	.09
750-3½	.09	.09¼
1,200-3½	.09½	.09¾
2,000-4	.09¾	.10

Red Oils:

200-5-6	.07	.07¼
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08½	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:

100-2½-3	.07½	.07¾
200-2½-3	.08	.08½
300-3-3½	.08¾	.09¾
350-3-4	.10¼	.10¾
400-3-4	.11½	.12
450-3-4	.12¼	.12½
550-3-4	.12¾	.13¼
600-3-4	.13¼	.13½

Red Oils:

200-4-5	.08¼	.08¾
300-5-6	.08¾	.09
350-5-6	.09¾	.10
400-5-6	.10¼	.10½
450-5-6	.10¾	.11
500-5-6	.11	.11¼
600-5-6½	.11½	.12¼
700-6½ plus	.12½	.12¾
750-6½ plus	.13	.13¼
900-6½ plus	.13¼	.13½

PENNSYLVANIA—

150 vis. a 70° F., color, 400-405 flash:

Zero pour test	.19½	.20
10 pour test	.18½	.19
15 pour test	.18	.18½
25 pour test	.17	.17½

180 vis. at 70° F., 3 color:

25 pour test	.20	.20½

200 vis. at 70° F., 3 color:

Zero pour test	.24	.24½
10 pour test	.23	.23½
15 pour test	.22	.22½
25 pour test	.21½	.22

Bright and Steam Refined

OKLAHOMA (Group 3)—

Bright Stocks:

190-200 D, 15-25		.19
150-160 D, 0-10		.16
150-160 D, 15-25		.15½
150-160 E, 15-25		.15
100-110 D, 0-10		.15

Steam refined:

630 green (treated)		.09½
600 light green, untreated		.08½
600 dark green, untreated	.05	.06

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 510; 540-550 flash):

10 pour test	.21	.21½
15 pour test	.20	.20½
20 pour test	.19	.19½
25 pour test	.18	.18½

Steam refined:

600	.09½	.10
650	.11	.11½
600 Pensylvania flash	.12	.12½
630 flash	.17	.17½
600 Warren E filtered	.13	.13½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02	.0205

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0205	.021
124-126 (a.m.p.) w.c. scale	.0205	.021

NEW YORK—

Wax in bags fully refined:

123-125 (a.m.p.) wax		.0420
125-127 (a.m.p.) wax		.0430
128-130 (a.m.p.) wax		.0455
130-132 (a.m.p.) wax		.0480
133-135 (a.m.p.) wax		.0510
135-137 (a.m.p.) wax		.0565
124-126 (a.m.p.) w.s.	.0200	.0210
124-126 (a.m.p.) y.s.	.0200	.0205

Petrolatum in barrels, carload lots:

Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06⅞
Snow white	.07⅜	.07⅝
Cream	.05⅝	.05⅞

CHICAGO (f.o.b. switching district; carload lots in bags, add 3° for a.m.p.)

122-124 (a.s.t.m.) wax	.0440	.0450
125-127 (a.s.t.m.) wax	.0465	.0475
127-129 (a.s.t.m.) wax	.0480	.0490
*130-132 (a.s.t.m.) wax	.0520	.0530
*132-134 (a.s.t.m.) wax	.0545	.0555

*Prices applicable for wax shipped in bulk or bag.

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04½	.04¾
60-62 400		.04¾
61-63 390		.04¾
64-66 375		.04¾

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04
55-65 octane	.04	.04¼
65-67 octane	.04¼	.04½
67-69 octane	.04½	.04¾
Above 69 octane	.04¾	.05
58-60 400 endpoint	.04½	.05

KEROSENE

GULF COAST—

41-43 prime white		.03¾
41-43 water white	.03¾	.04
44 water white		.04¼

LOS ANGELES—

41-43 water white	.04¼	.04¾

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:

600 Warren E	.18½	.19
600 S.R. unfiltered	.16½	.17
650 S.R. unfiltered		.18
600 flash S.R.	.19	.19½
630 flash S.R.	.23	.23½

Bright Stocks:

8 color		.25
6½ plus colors in dilution		.2¾

NEUTRAL OIL

200-3 color		.23½
150-3 color		.24

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.035
125-127 a.m.p.		.03625
128-130 a.m.p.		.03875
130-132 a.m.p.		.04125
133-135 a.m.p.		.04625
135-137 a.m.p.		.04875

Crude scale:

124-126 w.s.	.0200	.0205
124-126 y.s.	.0195	.02

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